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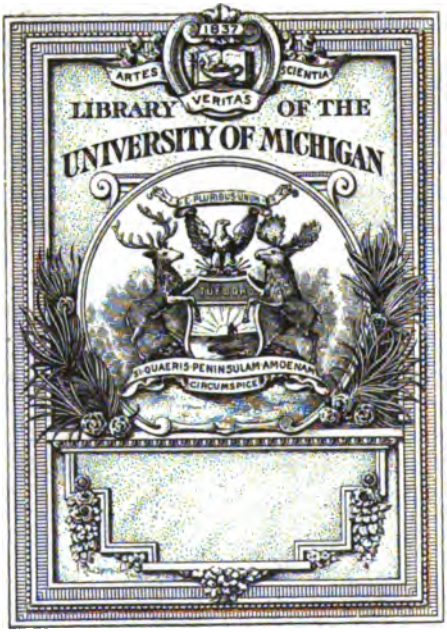
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REPORTS

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CONSULS OF THE UNITED STATES.

No. 73.—JANUARY, 1887.

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1887.

308 A—No. 73

CONSULAR OFFICERS.

Names.	Places.	Page.
Bird, W. S	La Guayra	114
Bissinger, E	Beirut	110
Brent, H. M	Callao	55, 112
Bridgers, P. L	Montevideo	35
Bryan, E. H	Lyons	115
Crouch, H. C	Milan	83
Crowe, C. L	Zante	80
Eckstein, D	Amsterdam	61
Gade, G	Christiania	85
Gilbert, H. W	Trieste	67
Goodwin, G. B	Annaberg	112
Heenan, T. E	Odessa	114
Ingraham, D. H	Cadiz	114
Jussen, E	Vienna	65
Kennedy, J. D	Shanghai	113
Knight, W. J	Cape Town	110
Mason, F. H	Marseilles	57
Millar, S. R	Leipsic	74
Newton, R. S	St. Paul de Loando	111, 114
Sawyer, M. H	Trinidad	115
Smith, J	Newcastle-upon-Tyne	112
Strickland, P	Gorée-Dakar	102
Sutton, W. P	Matamoros	49
Underwood, F. H	Glasgow	65
Wamer, W. D	Cologne	59–70
Williams, G. S	Nottingham	69
Woessner, J	Saltillo	48
Bacon, John E., chargé d'affaires	Montevideo	1

CONTENTS.

	Page.
AFRICA:	
Packing goods for export	102
Royal Trans-African Railroad	114
Tariff of Cape Town	110
Trade of St. Paul de Loando	111
AUSTRIA-HUNGARY:	
Foreign trade of, and the petroleum question	65
Petroleum in Austria	67
BRITISH WEST INDIES:	
Commerce of	115
CANADA:	
Tariff regulation	113
CENTRAL AMERICA:	
Exports declared for the United States, January to October, 1886	97
CHINA:	
American exports to Shanghai	113
FRANCE:	
Exports from Lyons to the United States	115
Necessity of prohibiting American vines in Tunis	90
White-lead industry	57
GERMANY:	
Iron and steel industry	70
Market value of stocks of companies, 71—Prices, 71—England and Germany, 72—Demand and supply, 72—Associations, 73.	
Wages of labor in Germany and Saxony	74
Wages statistics, 74—Day wages in Saxony, 76.	
White-lead industry of Cologne	59
Marketing, 59—Production of lead ore in Germany, 1876–1885, 60—Lead production, commerce, and consumption, 1871–1885, 60—Prices, 60.	
GREAT BRITAIN:	
Commerce of the Tyne	112
Lace industry of Nottingham	69
White-lead industry of Glasgow	65
GREECE:	
Currant crop	80
HOLLAND:	
White-lead industry	61
ITALY:	
Silk speculation	83
MEXICO:	
Exports to United States, 1886	92
Interests of Saltillo	48
Labor laws	49
General provisions, 49—Domestic service, 50—Day labor, 51—Work by job, 51—Transportation of passenger freight, 53—Apprenticeship, 54—Inns, &c., 54.	
NEW ZEALAND:	
Wages and prices in	105
NORWAY:	
Mines and mining	85
Precious metals, 86—Copper and sulphur pyrites, 87—Nickel, 88—Men employed and value of product, 89.	
PERU:	
Budget of	112
Duties on tobacco and cigars	112
Progress in	55
RUSSIA:	
Pipe-line from Baku to Batoum	114

Page.

SPAIN:
Crops, 1886 114
Salt production 114

SYRIA:
Trade of Beirut with the United States 110

URUGUAY:
Description of 1
Physical geography, 1—Climate, 3—Forests, 3—Botany, 4—Marble, copper, lead, &c., 4—Population, 5—Value of lands and stocks, 6—The Liebig extract of beef factory, 10—Land and agriculture, 11—Immigration, 13—Constitution and government, 14—Education, 15—Commerce, 16—Imports, 18—Exports, 18—Debts, 20—Revenue and taxes, 21—Frozen-meat trade, 21—United States direct trade with Uruguay, 25—Trade with the United States and Paysandú, 26—Wool, 28—Custom-house duties on the principal articles of commerce, 30—The future of Uruguay, 30—The city of Montevideo, 34.
Compared with other nations 35
Population, 56—Agriculture, 38—Stock, 39—Wealth and earnings, 39—Railroads, 41—Mail routes, 41—Telegraph lines, 42—Schools, 42—Newspapers and letters, 42—Banks, 42—Exports and Imports, 43—Debt, revenue, and expenditure, 45—Navigation at the port of Montevideo, vessels entered and cleared, 1882,-'83,-'84,-'85—Exports and imports of Uruguay from 1878 to 1885, inclusive, 46.

VENEZUELA:
Duties on tombstones, statues, &c. 114

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 73.—JANUARY, 1887.

REPUBLIC OF URUGUAY.

REPORT OF MR. JOHN E. BACON.

PHYSICAL GEOGRAPHY.

The Oriental Republic of the Uruguay, better known as the Banda Oriental, is situated between latitude 30° and 35° south, and longitude 53° and 58° west of Greenwich. It is in shape "something of a parallelogram," and may be termed a peninsula, having a seaboard, coast and shore line, of at least 625 miles, 200 of which extends along the Atlantic coast, 270 on the river Uruguay, and 155 on the river Plate. It is bounded on the north by the rivers Cuarim, Yagua, and Chuy, and a ridge of hills called the Chuchilla Santa Anna, which separate it from Rio Grande do Sul, a province of Brazil. The river Uruguay, which bounds it on the west, is over 1,000 miles in length, rising in Brazil, and is navigable for steamers almost entirely along its Uruguayan borders.

The majestic Plate is so well known as to render its description superfluous. It is another Mississippi, and the ships and steamers of almost all nations course its mighty channel.

The Atlantic coast line extends from Chuy to Montevideo, the latter being far the finest port on the South Atlantic coast below Rio de Janeiro.

It will thus be seen that the Republic enjoys almost unparalleled natural advantages for ocean and river commerce.

The area of the country is about 76,000 square miles.

It is the smallest Republic in South America, but, as Mulhall ("Hand-Book of the River Plate") says, "the most favored in point of climate, soil, and geographical position," and, as will be seen hereafter, one of the most important and flourishing in point of commerce, agriculture, and stock-raising, and destined by its great natural advantages to become more and more so from year to year.

Physically speaking, the Republic may be said to be divided by the Rio Negro, which, rising just over the northeastern line in Brazil, flows

in a southwesterly direction through the whole country until it empties into the Uruguay. It is navigable for boats and, when full, for small steamers.

The next striking physical line of division is the great ridge (Chuchilla Grande) traversing almost the whole country in an exactly opposite direction to that of the Rio Negro—north to south—and terminating near to, or, in fact, in the Montevidean promontory on the coast. There may said to be three distinct physical sections:

First, the southern or southeastern section, which is more diversified than the others and its scenery more picturesque; the lands are undulating and grassy, and now and then emboldened by abrupt mountains, some more than 2,000 feet in height.

The southwestern section is "plutonic and metamorphic," very fertile, having a deep detritus and valuable deposit. It is also undulating, sometimes culminating in lofty hills. Except near the rivers, the forest trees are of scanty growth. This section lies principally on the rivers Plate and Uruguay, and is unusually well watered. It contains many large cattle and sheep farms, and its agricultural productions are of great importance.

The north, northeastern, and northwestern portions are composed principally of plutonic ranges, inclosing wide and fertile valleys, exceedingly well watered and sufficiently well wooded. The hilly ranges of the north and east abound in mineral deposits, such as lead, gold, copper, marble, agate, and amethyst. Of these the gold mines of Cuñapiru, in Tacuarembo, are the most important. The superintendent of mines, in his report, says that two companies are working in the district of Cuñapiru and Corrales, the Company of the Gold Mines of Uruguay and that of the Gold Mines of Corrales. The first is the most important, holding concessions extending over more than 3,600 superficial hectares, and is projecting the acquisition of new mines.

* * * The quantity of auriferous quartz extracted is not considerable, as is the case in the ordinary preliminary works. Two hundred operatives are employed on this concession, and in the neighborhood of the principal mine there has sprung up a village of more than 400 inhabitants. * * * There are at present working in Cuñapiru 400 operatives, and the population of the place is 600.

The Gold Mine Company of Carrales has concessions of a superficial extent of 2,425 hectares, and it is wonderful how much it has done in a few months, with only 70 laborers. It has extracted more than 1,600 tons of mineral.

* * * For both companies the past winter has been disastrous. It has been impossible to transport even one load of machinery from Salto, and at this moment the cost of transport is $90 per 1,300 kilograms.

The sierras are not lofty, but their fawn-colored sides make an agreeable contrast to the green and purple of the valleys and glens, and the range termed the "Ghost Mountains" presents at times a weird and novel aspect. The great deformity in these mountains is the lack of trees of any size. The shrubs, however, such as the acacia, myrtle, mimosa, and the ceibo, a beautiful scarlet, flourish on the stoniest hillsides, while the intervening valleys are fragrant with the bay and the laurel, and the greensward is gay with varicolored flowers of brilliant hues.

The grasses are apparently perennial, and remain succulent and green, except in extraordinary drought, thus affording pasture the year round for immense flocks and herds of cattle and sheep. This freshness of the grasses is due, I am told, to the fertilizing and cooling constituents of the *legamo pampero* (pampa mud), having "aluminum as its char-

acteristic base," modified by calcareous and silicious matter. In this regard the soil is best proportioned in the provinces of Soriano, Paysandú, Durazno, and Tacuarembo.

CLIMATE.

The climate is by no means tropical, but temperate, somewhat similar to that of the Chestnut range of Upper Italy.

The thermometer (Fahrenheit's) scarcely ever marks 95 degrees in the summer, the general mean being about 65, and should the degree of 90 remain for two days it invariably gives rise to a thunder-storm, which cools and freshens the air in the most astonishing manner. The winters are mild, and though frosts are frequent in June and July, they do not affect the vegetation to any extent. The air is unusually pure, the atmosphere even in Montevideo, notwithstanding the location of the city immediately on the sea and river, quite dry. Indeed, the whole Republic enjoys an enviable reputation for salubrity.

FORESTS.

The majority of the provinces are not so well wooded as might be expected. Cerro Largo, Paysandú, Salto, Soriano, Maldonado, and Minas, however, enjoy an enviable exception in this regard.

The trees of native growth are generally those of a temperate climate. All sorts of poplars, willows, and alders flourish. Among others, not known in our country, are the algarabo, from the pods of which the natives distill an inferior, and, to my taste, nauseous beer, called chicha. The tree is much prized for timber, and cattle thrive, I am told, upon its buds and foliage. It is often called the carob tree. The umuday, a lofty tree, which is said to resist decay in a most remarkable manner. I was shown posts of this tree, said to be over two hundred years old, which evinced no signs of rot. It furnishes immense logs, often 60 feet in length by 30 inches square. The timbo or canoe tree is valuable for rough canoes; indeed, the trunk, which is quite large and generally hollow, is easily scooped, and the rude and frail bark ready for the fisherman. The yata is a tree of exceedingly slow growth, taking over one hundred years to mature its fruit, which, like that of the carob tree, is excellent for cattle. The carouday (a large fan palm) is of great use to the poorer native classes, as it makes an excellent roof for their huts and is easily placed and replaced. The mimosa and cedar flourish. Their wood is capable of great polish, and it is said that clothes, woolen or cotton or of any other description, will never be touched by moths if placed in cedar chests. The lapacho, of the bignonia species; the nanduly; the ombu, resembling the fig tree, but much larger, prized for its shade; the telañe; the chanar, a thorny mimosa, and many others of similar habit and foliage abound, and are prized for their respective good qualities. The absence of the oak, the pine, and the fir is singular, and I have heard no sufficient reason therefor. Many efforts, I am told, have been made to grow them, but without success. Of the foreign or imported trees, the eucalyptus, from Australia, is the most flourishing. It is said to be a preventive against malaria. There are hundreds of groves and hedges of this tree in the environs of Montevideo. I have heard but one objection to it, viz; that it impoverishes the soil around it for many yards so that no other tree or shrub can flourish in its neighborhood, and its roots penetrate to such a depth and entwine every object within their reach to such an extent as to uproot, pavements and tombs, though considerably removed from the trunk of the tree itself.

FRUITS.

The fruits are also principally those of a temperate climate, such as the apple, quince, pear, peach, cherry, fig, grape, olive, &c., and of the smaller varieties, the currant, strawberry, watermelon, cantaloupe, &c. The strawberries grow to an enormous size, and are sold by the dozen, never by the measure. They need, however, the pleasant subacid taste of our favorite sorts.

The "water pear," which matures in February, is, I am told, of immense size, often weighing 10 pounds to the dozen, and very luscious, juicy, and healthy. They may be bought in season at from 30 to 40 cents per dozen. The "green gages," prized for "brandying," are grown in great quantities and of the largest size. They are retailed at about 15 cents per dozen. At the same time subtropical fruits flourish and are produced in great abundance, especially the orange and lemon.

The vegetable-garden flourishes here in all its excellence. Cabbages, cauliflower, cucumbers, corn, tomatoes, celery, potatoes of both sorts, salsify, lettuce, cress, onions, and, in fact, leguminous plants of all kinds flourish and mature in untold quantity and quality.

Indeed, the soil is so fertile, and the climate so well suited to the productions of the kitchen-garden, as to produce them with little work and care, thus enabling the consumer to enjoy them at rates fabulously cheap. Cabbages, for instance, of the finest and largest size may be bought for 4 cents a head; cauliflower for 3 and 4 cents, &c. Potatoes, however, though the soil and climate are both suited to them, are comparatively dear.

BOTANY.

Of the fauna and botanical plants I have little knowledge and no experience. They are, however, I am advised, numerous, especially the medicinal plants, such as gentian, sarsaparilla, camomile, poppy, wormwood, licorice, balsam, coriander, alder, rosemary, marsh-mallow, &c. Indeed, some of the rivers are, at times, it is said, so impregnated with the sarsaparilla root as to possess sanitary qualities for bathing, and I am credibly informed that the inhabitants along the banks of a certain part of the Uruguay River are exempt from all skin diseases arising from impurity of the blood, owing to the fact that they drink the water of that river, which, in the neighborhood of their residence, is strongly impregnated with sarsaparilla.

Of the flowers proper I shall speak more fully hereafter.

MARBLE, COPPER, LEAD, ETC.

Of the gold mines I have already spoken. The marble quarries, in my opinion, are far more valuable than the gold and silver washings. Marble abounds in great quantities and great varieties. Not less than sixty different sorts of Uruguayan marbles were exhibited at the late Paris Exhibition. Almost every house in Montevideo of any pretension to elegance has marble entrance stair-steps, &c., and marble also adorns the façades of many public buildings, and yet, strange to say, with such vast quarries of the finest and most varied marbles within a few miles of the city, nearly the whole, or a large majority, used for building purposes, comes from abroad. Copper, manganese, and lead exist in large quantities. Owing to the want of easy communication with the interior, and the cost of transportation, these deposits have never been sufficiently worked. Coal is said to have been found in Cerro Largo and Maldonado, but the fields are not worked, and the city and country is supplied from abroad at great expense, chiefly from Cardiff, at a cost, when placed at the kitchen door, of from $12 to

$15 per ton of 2,000 pounds. Agates and crystallizations of pretty and varied species are found in quantities near Salto, as are also petrifactions of great size and singular beauty, so abundant that cargoes are shipped to foreign ports.

POPULATION.

According to the statement of the fourteenth "*Cuaderno Direccion de Estadística-General*," presented to this legation, printed in 1885, there has never been an accurate census of the inhabitants of the Republic. The most reliable calculation in this regard, and that most depended upon, is what is termed the "Vaillant" calculation, made in 1879. Proceeding upon the Vaillant plan, the population of the Republic in 1885 is estimated at between 650,000 and 700,000. Mr. Palgrave, the British minister here, estimated it at a "trifle less than 700,000."

The different nationalities of which the population is composed are estimated as follows:

Nationalities.	Number.	Nationalities.	Number.
Native Uruguayans	553,090	French	16,225
Spaniards	42,102	Germans	2,900
Italians	39,430	English	2,890
Brazilians	23,750	Of all other nations	Unknown
Argentine Confederation	18,010		
			698,397

From which it will be seen that nearly one-fourth are foreigners. It will also appear that the present population is composed of the very best nationalities. Indeed, the original native Charman (Indian) element has almost disappeared, as also the negro population, at one time considerable in numbers. The population indeed is quite remarkable, especially for South America, by the absence of Jews, negroes, and Indians. Owing to the admixture and "crossing of blood" of so many nationalities, the present inhabitants of Uruguay are famed for unusual physical beauty, as also for considerable energy, courage, and perseverance. In addition to this there is, so far as my experience goes, a high regard for commercial integrity. For social qualifications, politeness, courtesy, and kindness, the Montevideans cannot be excelled. The women are unusually beautiful, with rich complexions, dark jettily-fringed eyes, and superb figures, and are unsurpassed in grace and ease. Their moral qualities are also of the highest order, and the maiden and matron enjoy an enviable reputation for all those qualities that make up the virtuous woman and exemplary matron. The men are also handsome and manly. The marriage life, I am told, is generally unexceptionable, the union faithful, and the children remarkably healthy and well-shaped. Indeed, I have seen few deformed in this city, and the really indigent are rarely met.

I should have remarked under the head of "Population," that what is there termed the native Uruguayan is in reality little less than a good admixture of the Spanish immigrants, principally from the Basque Provinces, Catalonia, Navarre, and Galicia, together with Canary Islanders, and even where the admixture of the old native Indian blood "crops out" it does justice to the better elements of that fast disappearing race.

In reckoning the population, it should also be stated that all children born within the Uruguayan limits, no matter what may be the nationality of the parents, are regarded as Uruguayan citizens. Upon their leaving the Republic, however, they regain the nationality of the father.

The population is distributed quite unequally throughout the Republic, and the same may be said of the wealth of the country.

The density of the population, for instance, in the several departments of the country is as follows:

Departments.	Number of inhabitants per square kilometer.	Departments.	Number of inhabitants per square kilometer.
Montevideo	226.82	Rio Negro and Paysandú	1.98
Canelones	14.44	Minas	1.71
Colonia	6.17	Durazno	1.50
San José	3.12	Salto and Artigas	1.47
Soriano	2.91	Cerro Largo	1.43
Florida	2.29	Tacuarembo and Rivera	1.31
Rocha and Maldonado	2.22		

The rapid increase of the population in latter years may be seen from the following:

In 1796 the number of inhabitants was estimated at 30,000; in 1813, estimated at 50,000; 1829 (the year of the declaration of independence), 74,000; 1852 (after nine years seige of Montevideo), 131,969; 1860, 221,000; 1873, 450,000; 1885, 690,000; from which it appears that during the thirteen years between 1860 and 1873 the population more than doubled itself, and from 1873 to 1885 the increase has been at a large and steady rate.

VALUE OF LANDS AND STOCK.

The aggregate value of real estate and stock was estimated officially in 1883 at $237,496,092, and is now supposed to be at least a fourth more, $296,870,115. To this should be added about 125,000,000 invested in other property, making in all $421,870,115.

The proprietors of the lands and stock are reckoned at 41,760 and it will be a little strange to know that more than one-half of this property is owned by foreigners, as will appear from the following table copied from the *Estadística-General* for 1885:

Nationality of proprietors.	Department of Montevideo.		Other departments.		Total.	
	Proprietors.	Value of property.	Proprietors.	Value of property.	Proprietors.	Value of Property.
Uruguayans	3,568	$34,717,508	14,669	$686,940 16	18,237	$103,411,522
Italians	3,633	15,861,440	2,849	6,928,622 00	6,482	22,790,062
Spaniards	1,995	10,501,977	4,643	17,327,866 00	6,638	27,829,843
French	1,072	7,371,070	1,523	6,095,691 00	2,595	13,466,761
English	134	1,993,504	379	6,549,059 00	513	8,542,563
Germans	83	800,120	244	1,790,545 00	237	2,590,665
Portuguese	77	667,662	229	1,255,270 00	306	1,922,932
Argentines	144	1,877,230	1,599	2,229,749 00	743	4,106,979
Brazilians	43	543,233	5,543	50,998,311 00	5,586	51,541,544
Saizos	40	194,792	205	434,463 00	245	629,255
Americans	10	51,140	16	96,837 00	26	147,977
Belgians	3	23,800	7	51,412 00	10	75,212
Africans	5	3,600	.....	.....	5	3,600
Danes	1	39,890	.....	.....	1	39,890
Austrians	8	37,870	6	19,749 00	14	57,619
Greeks	2	2,060	.....	.....	2	2,060
Swede-Norwegians	2	4,422	5	10,788 00	7	15,210
Chilians	.....	.....	11	126,182 00	11	126,182
Paragnayans	.....	.....	10	14,261 00	10	14,261
Dutch	.....	.....	2	15,450 00	2	15,450
All other	.....	.....	.....	165,505 00	.....	165,505
Total	10,820	74,691,318	30,940	162,804,774 00	41,760	237,496,092

RÉSUMÉ.

Nacionales (nationalists)	3,568	34,717,508	14,669	68,694,014 00	18,237	103,411,522
Estrangeros, (foreigners)	7,252	39,973,810	16,271	94,110,760 00	23,523	134,084,570
Total	10,820	74,691,318	30,940	162,804,774 00	41,760	237,496,092

In proportion to the population the number of live stock is enormous. According to the tax returns for 1883 there were in the Republic the following:

Kind of stock.	Number.	Kind of stock.	Number.
Horned cattle, excluding oxen, sheep, and goats	5,957,034	Mules	8,327
Oxen	52,757	Mules (wagon)	655
Mares	340,166	Sheep	14,595,495
Horses	172,062	Goats	6,146
			21,132,642

In the report from which the foregoing is taken no mention is made of swine—and the commissioner of statistics states that there is no doubt of the fact that the return, as is usual in such instances (returns for taxes), is far below the real number.

Mr. Palgrave, the British minister here, who has had great facilities for such calculations in this regard, estimated the "horned cattle" not under 7,000,000, and I see that Mr. Hill, a large and reliable estanciero of this Republic, during a late visit to the United States, in an interview with one of the reporters of the New York Herald, of the date of August 29, 1885, states that there are in Uruguay the following:

Horned cattle	8,000,000
Sheep	20,000,000
Horses, mares, and mules	1,800,000
Swine	100,000
Goats	60,000
Total	29,960,000

This would give to a population of 700,000 over 42 head of live stock to every man, woman, and child in the Republic.

The valuation placed upon this live stock, according to the returns, is very low. Indeed the official valuation itself is quite too small. For instance, in 1880. horses were valued at only $3, mares at $1, &c.

The present official valuation is as follows:

Cows	$5 00
Oxen	10 00
Sheep	60
Goats	60
Swine	5 00
Horses	8 00
Mules	6 00
Mules (broken in)	12 00
Mares	1 00

This valuation discloses some remarkable facts. For instance, a mare is worth only $1, while a hog is worth five times as much, $5. Sheep are worth only 60 cents per head, while the much-esteemed hog is worth almost as much as a horse.

I cannot explain why the hog is valued so highly; the only clew to it, so far as I know, is that smoked bacon retails here at from 30 to 40 cents per pound and hams at 40 and 45 cents.

The horses, valued at $8 per head, are not so large as those in the United States, nor are they "showy," standing generally about 14 or 15 hands in height. They have, however, wonderfully enduring powers, and are unusually gentle and sure-footed. In this regard they resemble the western mustang or the "marsh tackey" of the Carolina coast, and

their gait, I am told, when mounted, is a slow gallop or canter, of which they do not tire greatly through a whole day's ride.

I have witnessed daily their great enduring powers in the tramways or street cars in the city, where from two to three draw cars such as are used in New York and Philadelphia (indeed, the cars here are made in the latter city) at full trot, very often a canter, up and down the uneven tracks for three or four miles during half the day. Indeed, the exchangeable value of the horse in the "countries of the Plate" is very small, and many incidents of the insignificance of such value are related to foreigners.

A distinguished acquaintance of mine asked me some weeks ago why I did not rent a *quinta* (country seat) in the environs of the city, assuring me that by so doing I could live at more reasonable rates. Among other items, he mentioned that I could buy a good riding horse for $20, and that, the grapes around the quintas being most of them perennial, the keeping of the animal would amount to an insignificant sum, not over $10 per annum.

While en route for Asuncion the steamer stopped for lading purposes at Rosario over thirty-six hours, which gave the passengers ample time for exploring that town and its vicinage. In wandering about I came upon what seemed to me to be a large commons or old field, quite level, upon which were congregated apparently over 1,000 men on horseback and scarcely a dozen pedestrians. Upon approaching the latter, who proved to be Englishmen, they advised me that the crowd had assembled to witness the Sunday races; that it was the custom to attend on horseback, and that there was a saying about Rosario that no one walked save Englishmen and dogs; that horses could be bought for from $5 to $15 per head; indeed, I was assured that the beggars asked alms on horseback. For the truth of this I do not vouch, but it is a practical illustration of the value of horseflesh. The stake for the race, or rather races, for there were several, was one horse against the other. The betting seemed to be universal, and the excitement, judging from the jargon and gesticulation, immense.

Why the mare should be valued officially at the astonishing low price of $1 is inexplicable. They are never ridden and scarcely ever worked, and a pauper, I am told, would scorn to be found mounted upon a mare. Their principal use, it would seem, as will hereafter appear, is in being slaughtered after a certain age and converted into grease, hide, glue, &c.

Nor can I fathom the valuation placed upon a sheep—60 cents. My cook, who "markets" also, pays from 50 to 60 cents for a quarter of lamb, just about the value of the whole sheep, to say nothing of the wool, hide, &c.

The comparatively high valuation placed upon the hog, as before stated, can be accounted for by the price of ham and bacon—from 40 to 50 cents per pound, and greatly inferior to that of the United States.

Why the Western pork packers of America do not export bacon to these countries is inexplicable. Prime bacon, I understand, can be bought in Baltimore and other Atlantic ports for less than 8 cents per pound, and surely the expenses of transportation, duty, &c., would not more than double that sum, say 16 cents per pound; so that even should it sell here at wholesale prices at 25 or 30 cents per pound, the investment would be almost doubled. The cities of Buenos Ayres and Montevideo alone, almost in sight of each other, contain over 500,000 inhabitants, many of whom are wealthy, and thousands may be reckoned as "good livers," who, it is presumed, would prefer "sweet lard," "bacon

strips," and "Ferris's hams," indeed, any good cured bacon, to the olive oil and wretched pork generally used in the kitchens here.

It will be seen from the foregoing that Uruguay is unusually rich in live stock. We have already shown that there are over 42 head to each man, woman, and child in the Republic. Vaillant, the recognized Uruguayan statistician, states that in 1872 there were to each, 16 horned cattle, valued at $112; 44 sheep, valued at $52.80; 3½ horses, valued at $21; mules, hogs, and goats, valued at $6; total, $191.80. And commenting upon this, he says that no other country in the world can compare in this regard with the Oriental Republic. A comparison with the United States in this regard may not be uninteresting.

According to the census of 1870, the value of live stock of all sorts was estimated at $1,524,271,714, which is over seventeen and one-half times that of Uruguay, but the area of the United States is thirty-five times larger than that of Uruguay, and the population, not counting the Indians, is 84 times larger, which would give the comparative value of cattle as follows:

United States, per head	$39
Uruguay, per head	192

Alluding to the public wealth, Mulhall says:

It is worthy of remark that each inhabitant of Uruguay has 40 per cent. more wealth than in the Argentine Republic, while his earnings are only 6 per cent. higher.

And yet Buenos Ayres alone in that Republic is a very wealthy city, of over 350,000 inhabitants, and the number of sheep throughout that country was estimated, at the date of the foregoing statement, at over 80,000,000, being over 20,000,000 more than in the whole of the United States.

Indeed, the almost fabulous wealth of the countries of the river Plate in sheep alone may be understood when it is stated that in the Argentine Republic and Uruguay alone they are estimated at over 120,000,000.

England has always boasted of her "sheep-walks," and at one time there was a political axiom among a certain class of writers that the country which was richest in sheep had the "strongest backbone."

The inquiry very naturally suggests itself, What becomes of the increase of such immense herds and flocks of cattle and sheep (8,000,000 cattle, 20,000,000 sheep) in a country containing only 700,000 inhabitants?

The greater part of it is thus accounted for:

Of horned cattle (home meat supply), in which is included the beef furnished to the respective naval squadrons in Montevidean waters..head..	502,000
Live cattle exported per annum	102,000
Killed in *saladeros* (slaughter-houses) per annum	704,000
Total	1,308,000

The exportation in 1883 showed as follows:

Jerked beef or dried meat	pounds..	76,706,770
Pressed meat	do....	3,326,751
Extract of meat	do....	1,099,630
Grease	do....	37,601,739
Tallow-skins	do....	11,547,590
Artificial guano (refuse meat, bones, &c.)	do....	9,000,000
Hair	do....	3,250,102
Cow-hides	number..	1,638,730
Living sheep	do....	142,000

These *saladeros* (literally, salting places) are peculiar to the river Plate, especially to Uruguay and the Argentine Republic. In the vi-

cinity of Montevideo there are nine saladeros, the principal one being that at the "Cerro" (little mount), across the bay from the city, where, according to Mulhall, 200,000 head of cattle are killed annually, and he states that "when the wind comes from that quarter the smell in Montevideo is disagreeable." I must say that I have not as yet experienced this disagreeable smell, nor can I find any one who has.

On the river Uruguay there are a dozen or more of these saladeros, including the famous Liebig Extract of Meat Company. There are from 600,000 to 700,000 head of cattle slaughtered at these saladeros every season, besides a vast number of sheep, and from 50,000 to 80,000 mares. "The hides, tallow, grease, and other products of these establishments," says a recent writer, "involve the turning over annually of £2,500,000 to £3,000,000 sterling."

The same author (anonymous but whose book is issued by the authority of the consulate-general of Uruguay, London, 1883) estimates the "commercial value of an ox, young and in good condition," as follows:

Hide, 68 pounds, at 71 rials per 75 pounds	$6 43
Tallow, 40 pounds, at 13 rials per 25 pounds	2 04
Meat, 150 pounds, at 55 rials per quintal of 100 pounds	9 90
Remnants	50
Total	18 87

The saladero expenses for each animal are about $3.60.

THE LIEBIG EXTRACT OF BEEF FACTORY.

The "Liebig Extract of Beef" has now a world-wide reputation; indeed, I believe that it has become the universal prescription for debility and prostration. The factory is located in this Republic, at Fray Bentos, in the department of Rio Negro, on the river Uruguay. It employs over 500 men, and loads at its own wharves upwards of 80 vessels during the year for the export of the produce to Europe. As this factory and its extract have become so famous they merit more than a passing notice. Indeed, it must be a matter of interest and curiosity to the thousands of invalids who daily consume the Liebig extract to know how it is made.

The best description given of it is by Mr. Rathbone, in his report to the Orange Estancia Company, Liverpool, from which we will make such extracts as our limited space will allow:

The cattle are on arrival driven into large corrales or paddocks, arranged so as to supply them with water, but no food is given to them. A long, narrow passage, about 6 or 7 feet wide, and skirted by a long, narrow, platform pathway, about the height of the animal's horns, leads down to a small paddock, with a similar pathway around and a bridge over the opening into the galpon, which is further closed by a movable beam. Below the bridge is a large, low, square iron truck on a tramway which runs into the galpon, and branches into two parallel lines, so that the two trucks may pass each other. Along the left side of the shed are long ranges of rails for hanging meat; and along the right hand, a flat, slightly shelving, flagged space for laying the oxen upon. At the end of the shed is a large brine bath for soaking the skins, and beyond this there are further sheds where the skins are piled up with salt previous to being shipped. In saladeros the skins are generally salted, but on estancias the hides are usually dried. As I arrived, about fifty oxen were being hunted down the "race" or paddock into the fatal paddock.

* * * * * * * *

When the paddock was full and the gate shut, a man with a lasso, of which one end was attached to a steam winch outside (natives call it the English horse), went round the pathway and threw the noose over the most prominent horns he could see, which

were by no means ordinarily the nearest to the bridge. The winch being set going, the beast was hauled, stumbling and slipping and pushing aside all animals in its way, till its head was chocked up against the other beam leading into the galpon, upon which stood the killer, who, with a stab close behind the head with a large dagger-bladed knife, cut the spinal cord, and the animal at once dropped with a heavy thud, but without a struggle, onto the iron truck; the lower beam was then rapidly withdrawn, the lasso disengaged, and the truck run into the galpon by the men. Here, by means of a lasso attached to a horse, the animal was hitched into its place at the side of the shed, where a skinner was waiting for it, who immediately cut its throat and began to skin it. The blood was caught in large scoops and ladled into casks placed for the purpose. Meanwhile the skinner rapidly took the skin off, and, though sensation was probably thoroughly destroyed by severance of the spinal cord, yet muscular action was not, and it was rather ghastly to see the struggles of an animal with half its skin off, and even to detect a sound painfully like a bellow. These movements seem to take place when certain nerves were touched about the neck, and thus set in action. The skin off, it was taken to the brine bath spoken of, the entrails were taken out and carried away, the ribs cleared of flesh, and the limbs cut off and taken to the opposite side of the galpon, and there all the meat was cut from the bones and hung up on the rails provided for that purpose, together with that cut off the ribs, &c., still warm and quivering with life. The skull and horns were taken in a different direction. This operation takes from eight to nine minutes on an average, but on occasions has been done in five, and the skinner waits his next turn, which comes every fifteen minutes. As the truck is run out, the alternative truck is run into the paddock, and the beam shot back for another victim.

The shed contains about 25 oxen at a time, so that about 100 are killed, skinned, and cut up in an hour, and in the height of the killing season as many as 1,200 are thus disposed of per diem, or from 100,000 to 150,000 a season. Each skinner gets 6 pence per head, but if in skinning he makes a hole in the skin he loses his payment. In the height of the season he disposes of about 33 in a day.

* * * * * * *

After 150 were disposed of in an hour and a half, the remainder were left till after breakfast, and the place was cleaned up in a marvelously short time, making it difficult to believe that such a scene of blood had been taking place so recently. * * * When it has cooled, the meat is cleared of fat and is stewed in large oblong caldrons, in which the water is kept somewhat below boiling point, as it is a peculiarity of the extract that it contains no matter which is not soluble in cold as distinguished from boiling water. The thin soap so obtained is then strained off and carefully skimmed, which removes any trace of grease that may have remained in the meat. It is then passed through a series of elaborate evaporators, out of each of which it comes thicker until it reaches a consistency rather more solid than treacle. As much as 90,000 gallons of water a day is sometimes thus evaporated. It is now ready for use and is packed in large cube tins holding about 110 pounds of the extract; each of these tins contains on an average the substance of 15 animals, and is worth about 50 pounds.

Tin shops, carpenter shops, engineers' rooms, &c., on a complete scale are attached to the factory. There are also churches, schools, and houses for the operatives.

I will simply add that a higher price is asked here for the extract than in the United States, and that, strange to say, what is termed the "English Extract" is cheaper than either the Uruguayan or American. The solution of this, I am advised, is found in the fact that the Uruguayan is unadulterated, and the English and American, after being shipped from here, is returned adulterated, or rather weakened, so as to undersell the former. Whether this be so or not I cannot say, but I do know that the English brand is cheaper in this market than the Uruguayan, or, at least, that I paid higher for the latter.

LAND AND AGRICULTURE.

The official valuation of 1885, based upon the data of 1883–'84, estimates the extent of agricultural and pastoral lands as follows:

	Acres.
Agricultural	1,507,277
Pastoral	38,750,406

From which it would seem that agriculture was almost in its infancy.

In order to insure a better system for taxation, the Government has placed a value upon land. The subjoined table, copied from the statistical report for 1884, will show the present valuation in the different provinces of the Republic.

Departments.	Agricultural (cultivated), per "cuadras."	Grazing (pastoral), per "suerte."
Colonia, San José, Soriano	$8 00	$14,000
San José, Rio Negro	8 00	14,000
Salto and Florida (each)	8 00	14,000
Durazno Maldonado, Rocha, and Minas	6 00	10,000
Cerro Lago, Treinta y Tres-Tacuarembo, and Rivera	5 00	10,000

In Canalones the lands are quite fertile, and different values are placed upon them, according to location, in which valuation there are no pastoral lands. The mean value is about $18 per "cuadra." In Montevideo and its vicinage the valuations are very much higher.

A "cuadra" is equal to nearly 2 acres, and a "suerte" contains 2,700 "cuadras."

There is a fertile strip of alluvial land, extending from the mouth of the river Santa Lucia not far from Montevideo, in a direction parallel to the rivers Plate and Uruguay, about 3 miles inland, upon which a higher valuation has been placed—about $20,000 per "suerte."

The rich, succulent, and perennial grasses of the country offer great inducement for cattle and sheep raising, hence the great preponderance of pastoral over agricultural lands.

Formerly these pastoral lands were not fenced, but in latter years a mania for wire fencing has seized the country. Mullhall states that—

> During the last ten years the estancieros have spent exactly $1,000,000 yearly in fences, the area of land newly fenced averaging 400 square leagues per annum; thus one-half of the Republic is now fenced, at an outlay of $10,000,000.

In 1882 alone the imports show that over 32,000,000 pounds of wire fencing was brought into the country. The barbed is not preferred, as it is thought to be injurious to the wool of the sheep. The smooth steel wire used is sold here at about 2 cents per pound. None of this wire, I am advised, comes from the United States. Can this be true?

For the last five years great strides have been made in agriculture and new and improved machines and implements are being introduced and sold throughout the country. Machinery from Chicago is preferred in and around Paysandú, on the river Uruguay, as will appear further on, from the report of the consular agent at that port.

Manuring, drainage, subsoiling, &c., are little practiced. The soil is so fertile and the climate so fine that the farmer is amply repaid for the slightest cultivation of the land. Wheat, barley, oats, and maize (corn) are grown without much labor; indeed, I am told, that, with ordinary attention and with old-fashioned implements, wheat will give a return of from nine to eleven fold.

The corn, from imperfect cultivation, so far as I have seen, is greatly inferior to that grown in the United States, and the sort sold here in the markets for table use would be regarded with us as "nubbins" for swine. The beautiful, clear Chester and Flint varieties seem to be unknown. Of course, better seeds and better cultivation would produce better varieties—indeed, the climate and soil guarantee the perfect ear—if properly cultivated.

In the neighborhood of Salto and the provinces of Rivera and Durazno some attention has been given to the cultivation of tobacco, and I am informed that the attempts have been quite successful, the yield being good and the leaf of excellent quality.

IMMIGRATION.

In connection with agriculture comes immigration; indeed, the agricultural development depends almost entirely upon the immigrant.

From 1866 to 1871 there was a large immigration to Uruguay, the average for those years being over 17,000, of which nearly one-half were Italians, including a large proportion of vagabond Neapolitans. Most of these returned to their own country. From 1871 to 1877 the immigration was not so large, but of a much better and more thrifty class; indeed, possessing means enough to render them independent of the aid of the central board of Uruguayan immigration. The secretary of that board states that in the years last above referred to 169,778 immigrants arrived at Montevideo "of whom only 1,335 were lodged at the expense of the board."

In latter years the Government has had no agents abroad to encourage immigration, and in fact has discouraged any direct attempts in this regard, preferring only voluntary immigration of the better sort.

The report of the ministry of finance in 1882, alluding to this subject, says:

> But it is desirable that the immigration should be voluntary, spontaneous, and not fomented by contracting agents abroad, who, as a rule, promise more than they can perform, and the ultimate benefit is slight, either to the colonist or to the country to which he immigrates.

The consequence of this sound doctrine as to immigration upon the part of the Government has been serviceable to the country, in procuring a first-class immigration from the Basque Provinces and from France, England, and the upper Italian climes, estimated at:

	Per cent.
Spanish Basques	33.54
French	16.48
Spaniards	33.13
English	4.51
Other countries	12.34

The Basques and Canary Islanders are said to be remarkably energetic, thrifty, and successful. The latter are located in considerable numbers in the province of Canelones, and have carried agriculture in that province to a high grade.

The fostering of what are termed here "*colonias*" occupies to a certain extent the aid of Government so far as immigration is concerned. These colonies are composed, each, of the same nationality. In the province of Colonia there are several colonies, all of them contented and thriving.

In 1857 and 1858 the Vaudois or Piedmonte colony was founded by the arrival and association together of about 250 settlers. They now amount to nearly 3,000. They are principally Piedmontese Protestants, or Waldenses, from the lower portions of the Po. The center of the colony is La Paz (better known, however, as Rosario), where the chief churches and schools are located. The clergyman is generally schoolmaster also, and is supported by family contributions of grain, &c. There are about 46,000 acres in cultivation, well worked, with improved machinery, the grain crop alone being, upon an average, per annum, over

375,000 bushels. The land, consisting originally of 4 square leagues, quite fertile. Almost half of this, however, is said to have been sold to an adjoining Swiss colony in 1862.

The houses of the colony are comfortable, and are surrounded with good orchards and vineyards. The peaches grown in the vicinity are fine and luscious, and the Lombardy poplars, estimated at over 700,000, towering above the numerous wind and flour mills, are beautiful and flourishing; indeed, to all external appearances, nothing can be more happy and flourishing than this colony.

The Swiss colony, Nueva Helvetia, adjoining the above, is also very flourishing. It numbers over 2,000; cultivates nearly 27,000 acres. The cheese and honey from this colony will compare favorably with that from any other country.

These two colonies were not founded by the Government, but by private companies. The latter was organized upon the principle of selling the land for so much, and advancing the purchasers money at 15 per cent. per annum, to buy cattle, horses, provisions, &c.

Notwithstanding this enormous rate of interest, the lenders failed, and the lands were sold at public auction in this city at from $2.50 to $3 per acre. Since then the success of the colony has been rapid and continued, over 50,000 additional acres having been bought and added to the original tract. The lands now are worth at least six times the price paid for them.

Canaria adjoins the latter colony, having about 600 inhabitants, with 12,000 acres under tillage. These three colonies are adjacent, and have steam thrashers, mills, machinery, and breweries of the first order. They have also steamers, schooners, and stage coaches of their own; indeed, are apparently independent and happy.

CONSTITUTION AND GOVERNMENT.

The constitution as framed and formed in 1830 is, with a few exceptions, the constitution of to-day. It is similar in many respects to that of the United States; in fact, is more or less modeled thereupon.

The Government is divided into three departments—the executive, judicial, and legislative. The President is elected by an absolute majority of the General Assembly (*Assemblia General*) for four years, and is not re-eligible until after the lapse of four years from the time of retirement of office.

The cabinet is composed of five ministers appointed by the President, to wit, the minister for foreign affairs, the minister of the interior, minister of war and marine (jointly), minister of finance, and a minister for justice, education, and public worship, the three being combined into one department.

These appointees of the President, so far as I can see, are responsible to him alone.

The General Assembly is divided into two houses, the chamber of senators and the house of representatives, or the upper and lower house. The former consists of nineteen members (a new department having been recently added), each department being entitled to one senator.

Fifty-three members compose the lower house, proportioned among the respective departments according to the number of voters in each, giving, at present, to Montevideo eleven members, to Canalones six, and the remaining departments two each.

The sessions of the legislature are regulated by the constitution, and are annual, continuing from January to June. Extraordinary sessions,

however, may be called and are almost invariable, so that the General Assembly may be said to be almost always in session, which is not unpleasant to the members, as the per diem is high. The routine work (presentation of bills, and passing and ratifying of laws or acts) is similar to that of the legislative bodies in the United States, while a like or greater amount of rhetoric, if possible, resounds through the halls of Uruguayan legislation than through those of republican America. Indeed, in no other country of like compass and population is so much said, written, and spoken as to republican forms of government, liberty of the person and press, security of life and property, veneration for *habeas corpus*, universal suffrage, equal rights, &c., as in the Oriental Republic of the Uruguay.

EDUCATION.

Unusual attention has been given within the last four or five years to the education of the masses. It is now absolved from any denominational inhibition, and therefore stripped of the fetters of the Church in that regard. Indeed, the public schools, now over 50 for primary classes and over 100 for second-grade, besides 3 public high schools, are open alike to all religious denominations.

Of what are termed rustic or rural schools there are over 170, and the aggregate of scholars in 1884 was over 27,000.

Of private schools there were 432, having an attendance of about 20,000 pupils.

Rudimental education of some sort is compulsory upon all children between the ages of six and fourteen.

In connection with this subject, we should allude to the library, the museum, lunatic asylum, orphan asylum, and other charitable quasi educational institutions. The university at Montevideo has a distinguished corps of professors and nearly 400 students. There are two good academical English schools within the city.

An educational institution of a peculiar sort has been established and greatly fostered by the Government within the last few years, and as its features are novel and the plan and organization almost untried elsewhere, it is proper that it should receive somewhat of a detailed notice.

It is called *La Escuela de Artes y Oficios*. The principal aim of this institution is to afford to the poor boys of the Republic an opportunity to learn different trades and professions at the expense of the Government.

It is conducted upon a military plan and its expenses borne by the department of war and marine. The education is altogether practical, and the rules and regulations well defined and understood, and I am advised that the same are rigidly matriculated and strictly adhered to.

An applicant for admission to this school must have the following requisitions:

(1) He must be of Uruguayan extraction. (2) He must not be over fourteen years of age at the time of entry. (3) Vaccination is imperiously required. (4) He must be an orphan or his parents in indigent circumstances. (5) His father or mother or guardian must contract for him in writing, that he is to remain for six years absolutely under the control of the principal of the school, with no interference from home or elsewhere. (6) If taken sick that he must be sent to the charity hospital and return to the school as soon as able.

A military discipline of the strictest sort is observed.

The following table will give some idea of the character of this institution:

Shops or rooms.	No. of scholars.	Shops or rooms.	No. of scholars.
Carpenters	47	Arms	8
Boiler-constructing	4	Furniture making and polishing	32
Clocks, watches, &c	7	Turning lathes	4
Printing	39	Mosaics	4
Wood-carving	27	Ships	20
Photography	10	Instruments	3
Plaster-modeling	7	Carving fine stones	4
Work in silver	23	Cloth weaving	32
Painting	21	Besides this there are pupils in geography, history, philosophy, the dead and modern languages, chemistry, mineralogy, mathematics, physics, &c	29
Tailoring	25		
Engraving	13		
Saddle-making	20		
Lithographing	18		
Book-bindery	19		540
Blacksmith	9		
Tinsmith	6		
Shoemaking	45	The music class comprises	167
Foundry	9	Drawing class comprises	142
Mechanism	39	Fencing class	152
Cartridge-making	16	Telegraph	53

In order to visit the institution, a permit from the proper authority must be had, except upon examination days and days of sale of the different articles made by the pupils.

The sale is conducted upon a simple and inexpensive plan. The rooms containing the articles are thrown open to the public for so many days, and the prices attached to each article in large figures. No abatement is allowed from these prices.

I have been over the institution and found it unusually well kept and regulated, and its cleanliness remarkable. I also attended one of the sales, and was astonished to see the perfection and elegance of some of the articles. The Government printing is done within its walls, and governmental arms, ammunition, &c., made there.

To show to what extent and proficiency the institution has reached, it is only necessary to state that the Rivera, a gunboat, said to be powerfully built, was constructed entirely by the young workmen, and launched by them in the bay. The Rivera, to the great delight of the institution, did good service against the revolutionists in the rebellion just ended.

I have given perhaps too much space to this subject. Its character and features, however, seemed peculiar to me, its regulations unique, and, judging from what I could see and hear, it has proved a great success.

The minister of war and marine in his last report (1885 and 1886), alluding to this institution, says that its progress and usefulness are felt more and more from day to day, and that in addition to the Rivera, constructed there, a small steamer, Paz y Trabago, has been built and the steamers General Palleja and General Garibaldi are in the course of construction.

COMMERCE.

According to the last official reports the steamers and sailing vessels from beyond sea, entering and departing from Montevideo in 1883 were as follows:

Description.	Arrivals.	Tons.	Departures.	Tons.
Steamships	576	805,568	555	789,711
Sailing vessels	600	270,066	496	237,070
Total	1,176	1,083,104	1,051	1,026,781

The coasting and river trade for the same period was as follows:

Description.	Arrivals.	Tons.	Departures.	Tons.
Steamers	834	728, 219	833	728, 976
Sailing vessels	2, 022	122, 028	2, 097	159, 492
Total	2, 856	850, 347	2, 930	888, 468

Aggregate, 1883.

Engaged in—	Steamers.	Tons.	Sailing vessels.	Tons.
Ocean trade	1, 131	1, 595, 279	1, 096	507, 186
River and coast trade	1, 667	1, 457, 195	4, 119	281, 520

In 1884 there was, as will appear from the following table, an increase, over that of 1883, of 177 ocean arrivals and 100 ocean departures, 152 river and coast arrivals and 260 departures, with a considerable increase of tonnage, as follows:

Arrivals and departures at and from Montevideo in 1884.

Description.	Ocean arrivals.		Ocean departures.		River and coast arrivals.		River and coast departures.	
	No.	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*
Steamers	643	913, 473	602	866, 181	1, 056	881, 967	1, 101	945, 666
Sailing vessels	549	277, 916	549	277, 916	1, 952	164, 923	2, 089	206, 036
Total	1, 353	1, 265, 016	1, 151	1, 144, 097	3, 008	1, 046, 890	3, 190	1, 151, 702

The subjoined table shows the respective flags under which the above steamers and sailing vessels (for 1883) sailed:

Flag.	Arrivals.				Departures.			
	Steamers.	Tons.	Sailing vessels.	Tons.	Steamers.	Tons.	Sailing vessels.	Tons.
English	203	320, 480	165	106, 604	201	319, 264	134	97, 690
Spanish	14	24, 601	117	24, 429	15	25, 360	101	20, 102
French	118	201, 959	13	6, 024	113	200, 908	10	3, 555
Italian	48	60, 224	121	62, 914	42	54, 727	112	60, 527
German	107	147, 498	49	14, 173	102	140, 418	38	12, 304
Brazilian	57	24, 408	17	3, 161	56	24, 996	16	3, 121
Belgian	17	23, 111	1	1, 251	17	21, 285	.....	.....
Sweden and Norway	.....	.....	40	21, 198	.....	.....	30	16, 584
United States	1	78	26	14, 039	.....	.....	15	9, 273
Argentine	6	1, 374	3	1, 300	6	1, 374	1	20
Dutch	.....	.....	12	2, 412	.....	.....	11	2, 220
Austrian	.....	.....	19	8, 998	.....	.....	13	7, 286
Danish	3	1, 504	8	1, 543	2	1, 091	5	1, 229
Portuguese	.....	.....	8	1, 754	.....	.....	6	1, 316
Uruguayan	.....	.....	1	248	.....	.....	2	1, 247
Chilian	2	333	.....	.....	1	288	1	45
Greek	.....	.....	.....	.....	.....	.....	1	551
Total	576	805, 568	600	270, 066	555	789, 711	496	237, 070

Total aggregate steamers and sailing vessels.

	No.	Tons.
Arrivals	1,176	1,075,634
Departures	1,051	1,026,781

From this table it will be seen that England has a large preponderance of the trade, her steamers being about two-fifths, her sailing ships something over one-fourth, and their combined tonnage to about the same proportion of all the other countries together.

France, Germany, and Italy come next in order as to tonnage.

A more precise view of this trade will appear by reference to the following table of imports and exports for 1881, 1882, and 1883:

IMPORTS.

Countries.	1881.	1882.	1883.
England	$5,381,054	$4,454,845	$5,515,091
France	2,906,949	2,626,560	3,491,258
Brazil	2,193,492	2,204,745	2,213,239
Spain	1,894,463	2,001,295	2,093,290
Italy	1,032,194	1,243,571	1,313,634
United States	1,269,778	1,436,711	1,173,633
Germany	1,181,145	1,404,692	2,029,860
Belgium	453,764	374,747	595,853
Cuba	155,791	137,984	223,850
Argentine	464,018	649,898	744,332
Chili	134,888	491,532	99,155
Holland	144,227	185,813	115,090
Paraguay	114,480	120,065	82,770
Sweden and Norway	8,268	4,615	4,345
Denmark and Russia	1,190	8,179	2,372
Portugal	43,375	21,682	44,566
India, China, and Japan	54,965	47,325	52,456
Peru and Ecuador	13,156	51,495	2,452
Switzerland	32,580	25,112	18,381
Colombia	.....	.....	1,427
Mauritius	5,609	.....	.....
Austria-Hungary	586	319	1,897
Teneriffe	1,844	569	701
Other ports	401,068	688,046	502,659
Total	17,918,884	18,174,800	20,322,311

EXPORTS.

England	$3,191,959	$5,425,682	$4,831,263
France	4,069,847	3,620,686	4,230,562
Brazil	3,519,639	2,879,874	3,352,287
Belgium	1,875,730	2,863,833	4,870,947
United States	3,867,494	2,347,054	2,187,162
Cuba	689,302	1,099,011	1,076,081
Spain	265,066	158,226	230,479
Italy	583,083	352,593	317,960
Germany	69,826	338,577	689,087
Argentine	1,040,392	984,489	2,056,291
Chili	118,107	152,430	47,416
Paraguay	5,212	8,502	2,900
Antilles, Mauritius, and Reunion	28,799	40,932	22,436
India, China, and Japan	200	2,820	2,532
Peru	297	.....	176
Portugal	171,191	188,489	66,260
Falkland Islands	1,184	511	428
Cape of Good Hope	126,668	9,074	.....
Teneriffe	31,400	13,147	2,454
Mexico	.....	.....	100
Other ports	573,376	1,576,999	1,234,843
Total	20,229,512	22,062,934	25,221,664

From this it will be seen that the trade of the Republic is increasing annually, the excess of exports and imports in each year being shown in the following table:

Excess of—	Amount.	Per cent.
Exports in 1882 over 1881	$1,834,422	9.06½
Exports in 1883 over 1882	3,158,730	14.31
Imports in 1882 over 1881	255,916	1.43
Imports in 1883 over 1882	2,147,511	11.81

It will also appear that England leads in the imports, followed by France, Brazil, Spain, Italy, the United States, &c.

And in exports England, Brazil, Belgium, the United States, &c., making the United States the sixth in the import trade and the fifth in the export trade.

There are three other important points to be noticed from this table.

(1) That the United States decreased her import trade in 1883 by $263,078, and the decrease in exports in 1882 and 1881 amounted to $1,520,440, and in 1882 and 1883 the decrease was $158,892.

(2) That Germany almost doubled her import trade within the three years, and the increase in her exports are remarkable, the increase in 1882 over 1881 being $268,751 (being over five times as much), and in 1883 over 1882 $350,510, or almost double.

(3) The small country Belgium increases her imports and exports annually, having exported more in the three years than the United States, Italy, Germany, or Spain; indeed being the fourth on that list and the eighth on the import list. This is due to the fact that she takes the largest quantity of the River Plate wool, manufactures it into carpets and other woolen goods, and returns it and disposes of it otherwise. Of these matters more will be said in another part of this report.

The mercantile houses of the United States may form a fair idea of what the export articles of this Republic consist from the following table, being the principal products brought from the rural and agricultural departments to Montevideo in 1884, by the Central and Eastern Railroads. The products, of course, come only from those departments (counties) through which these roads pass, being only a small part of the whole country:

Cowhides	number..	266,984
Horse-hides	do....	7,489
Horns	do....	55,403
Shinbones	do....	18,420
Sheep-fells	do....	2,231,683
Lamb-skins	do....	173,760
Calf-skins	do....	16,541
Deer-skins	do....	640
Fox-skins	do....	250
Stag-skins	do....	15
Other skins	do....	1,803
Carpincho (wild hog) skins	do....	892
Horse-hair	kilograms..	234,064
Wool	pounds..	15,433,141
Fine grease	kilograms..	3,158
Ostrich feathers	do....	4,632
Bones	tons..	1,047
Hide-cuttings	kilograms..	1,688
Bran	do....	893,472
Oats	do....	80,960
Barley	do....	266,000
Flour	do....	1,054,219
Wheat	do....	25,975,262

There are many other articles included in this railroad list. The foregoing, however, will suffice.

In order to perfect this matter to a certain extent, it will be only necessary to state how and in what articles this trade has increased or decreased, as follows:

EXPORTS.

Kind.	1882.		1883.	
	Increase.	Decrease.	Increase.	Decrease.
Hides, meat, &c	$2,016,211		$2,556,361	
Live stock		$42,154	795,000	
Rural produce		322,548		$261,466
General produce	48,601		25,182	
Provisions, &c	138,312		2 453	
Total	2,203,124	364,702	3,419,296	261,466

IMPORTS.

Tobacco, &c	$185,162			$113,764
Dry goods		$658,802	$1,193,288	
Liquors	159,652		190,332	
Provisions, &c	901,969			318,880
Industrial implements		208,526		249,392
Ready-made clothing		230,141	428,014	
Sundries	106,062		1,017,908	
Total	1,352,845	1,097,469	2,829,487	681,976

DEBTS.

Before the unified loan in 1883 the Uruguayan debt consisted principally of—

Foreign debt	£3,467,500
To replace internal debt	6,808,500
New stock	851,000
Total	11,127,000

Or perhaps it would be better to say that the unified loan of 1883 was made up as above.

On June 30, 1885, it stood:

Unified loan of 1883		£11,127,000
Amortised to date		86,100
Internal, redeemable and not included in unified		351,573
Central Uruguay Railway		179,255
Northwestern Railway		382,979
Hygueritas Railway		145,957
Anglo-French	£136,085	
Italian	184,777	
French	379,729	
Spanish	61,957	
		762,548
Total		12,863,212

There is also the sum of £367,271 paper money (not forced currency), for which, however, the Republic has become responsible, the total debt amounting in all to over $60,000,000. The unified bonds bear 5 per cent. interest, and redeemable at par by an "accumulative sinking fund of one-half per cent." from January 1, 1884.

Messrs. Bomas & Co., of London, pay the interest and draw bonds, in that city on the 1st January, April, July, and October. They are paid in sterling at the fixed rate of $4.70 to the pound. They are also payable at the same rate and dates in Montevideo.

The coupons, when due, are received as cash at the custom-houses, and both principal and interest, no matter where paid, are free from taxation.

REVENUE AND TAXES.

The revenue of the Republic is derived principally, in fact altogether, so far as I can ascertain, from the following sources:

(1) Customs duties; (2) Property or direct tax; (3) Licenses on trades and professions; (4) Stamps and stamped paper; (5) Municipal.

The revenue comes, to a great extent, from the first source, arising chiefly from duties upon the assessed value of imported merchandise, averaging from 25 to 35 per cent. on such valuation.

The total revenue and that part of it received from customs for the past years since 1880, are as follows:

Years.	Total revenue.	Customs.
1881	£1, 880, 150	£1, 955, 447
1882	1, 913, 916	1, 146, 498
1883	2, 325, 249	1, 459, 029

The custom-houses show as follows for the year 1885:

Month.	Amount.	Month.	Amount.
January	$677, 673 18	August	476, 556 68
February	617, 051 19	September	544, 654 63
March	817, 556 03	October	604, 606 84
April	711, 577 71	November	459, 358 04
May	536, 475 60	December	557, 597 91
June	553, 615 65		
July	412, 356 15	Total	6, 968, 581 61

In 1885 the entire taxation per head amounted to £3 5*s.* 6*d.*, or about $15, the pound sterling here being valued at $4.70 United States currency. An Uruguayan dollar ("peso") is equivalent to $1.04 of United States money.

FROZEN-MEAT TRADE.

The principal wealth of the Plate countries consists in herds and flocks, and so rich are they in these that every possible attention and effort have been given to solve the vexed problem, "What shall we do with our surplus beef and mutton?"

Experience has taught the farmers that the shipping of live stock will not pay; the voyage being too long, say from 20 to 30 days by steamer to France, England, Germany, and Italy, and as a consequence the freights, including the feed, are very high.

For some time jerked beef answered for the purpose, but by degrees the frozen-meat trade has been resorted to and made successful.

In the Argentine Confederation alone there are said to be now 100,000,000 sheep, besides immense herds of cattle, and, as the pastures are apparently inexhaustible, the increase of such immense herds and

flocks must be prodigious and beyond all conceivable use for a population of only 3,000,000.

In Uruguay, likewise, with a population of about 700,000, there are said to be now (1886) over 8,000,000 cattle and 20,000,000 sheep.

It will therefore be easily seen that this frozen-meat trade, if ultimately successful, will assume gigantic dimensions. The question has become so important that legislation for its encouragement and development has been resorted to, and a certain interest guaranteed by Government upon all capital invested in factories of frozen carcasses.

For instance, in this Republic, Uruguay, it has been lately enacted, in order to assist the development of the export of meat, that the state will guarantee an annual interest of 6 per cent. upon all companies that shall establish themselves within the Republic for the purpose of exporting fresh meat, with a capital of not less than $500,000, to be increased to 7 per cent. when the capital is not less than $3,000,000, the total capital to be thus guaranteed, however, not to exceed $6,000,000.

This guarantee is subject to the following conditions:

(4) No guarantee to be granted until the proposer shall have deposited in one of the banks of the capital a sum equal to 1 per cent. of the amount of capital upon which the guarantee is asked. This deposit may be made in coin, or in Uruguayan bonds at the market value, or in real estate. In this last case the owner still to receive the revenue derived from such property.

(5) So soon as the company satisfies the Government that work has been done in the country equivalent to the amount of deposit, such deposit to be returned. In the event of the enterprise not being carried out within the legal period stipulated, the deposit shall be forfeited to the state, in accordance with article 14.

(6) Before any payment can be made on behalf of guarantee, the companies must satisfy the Government that they have complied with the following conditions:

(*a*) That they have employed in the country in constructive works, on land and afloat, a capital of not less than $100,000, if acting under article 1, or of $500,000, if acting under article 2.

(*b*) That the annual export has actually amounted to a minimum of 15,000 head of cattle or 120,000 sheep for each $500,000 of capital.

(7) The guarantee to be granted upon the capital actually raised for these enterprises, including that employed in the construction of establishments in the country and also the working capital in circulation.

(8) This guarantee to be granted only once, and in no case will the duration of the guarantee exceed ten years.

(9) When the companies earn more than 10 per cent. per annum they will be liable to refund to the Government the excess until they shall have repaid any sums received to make up the guaranteed interest.

(10) The executive power is authorized to sanction the operations of the companies in such localities as they may select for the establishment of freezing depots, when these do not act to the prejudice of other interests, and conform to the law of the Republic.

(11) The steamers of the companies will enjoy packet privileges.

(12) Companies will be at liberty to give up the guarantee at any time, provided they repay to the state all sums received as guaranteed interest. When this is done, the official inspection of their operations will cease, but all their other privileges will continue as before.

(13) In case the state be called upon to make up the interest to the guaranteed rate, the executive power is authorized by this law to take the sum required out of the general revenue of the country, and in case of

there not being sufficient funds, it will at once propose to the legislative body to grant the sum necessary for payment.

(14) The executive power is hereby authorized to concede at once guarantees to the company or companies which in its judgement are prepared to fulfill the conditions laid down in this law, but cannot allow more than two years for the installation of the works. In the event of the company failing to be in working order within that period, the deposit required by article 4 will be forfeited to the state, and the concession considered as canceled.

(15) The executive power will make arrangements for the inspection of the companies' operations, and take the necessary steps to secure the compliance with this law.

In addition to this, the subject receives the greatest attention from the rural societies, agricultural clubs, &c.

Indeed the interest manifested in regard to this trade by the valley of the Plate (chiefly Uruguay and the Argentine Republic) is ably supplemented by capitalists in England, France, Germany, and Italy; especially by the owners of the many steamboat lines between those countries and the River Plate Republic, as its success would fill their steamers to repletion with freights.

The Zenoha, for instance, lately carried, at one time, 13,536 carcasses of frozen sheep and 335 quarters of beef, at 3¾ to 4½ pence per pound for the mutton, and 2½ to 5 pence for the beef.

In addition to other meetings in different parts of Europe for encouraging this trade, the papers allude to one lately held at Hamburg, convened by Herr Pedro Beck, at which the matter was thoroughly discussed and a proposition made for an investment of 3,000,000 marks to assist the trade between that port and the river Plate

The great struggle now, as to what country shall monopolize this frozen-meat trade, seems to lie between the United States, Australia, New Zealand, the Argentine Republic, and Uruguay.

The transportation of frozen meat has become an undoubted success, and sooner or later, in the opinion of the best-informed parties, will entirely supersede that of the transportation of live stock.

If this be true, the subject becomes of vast importance to the United States, and especially to Chicago, the principal shipping point to England. My attention of late has been forcibly directed to this point by reading in the papers here of meetings, where this matter, so far as it affected the United States and Chicago, was thoroughly discussed. In point of fact, not only the Governments here (as will be seen from the guarantees by Uruguay of 6 or 7 per cent. to frozen-meat investments above referred to), but wealthy capitalists, backed by the wealth and intelligence of the *estancieros* (large farmers) are apparently more interested at present in devising ways and means to wrest this trade from the United States, Australia, and New Zealand than in any other. In order to do this, they have procured the fullest and most minute information as to the amount of live stock and frozen meat sent from those countries, where it is sent to, at what prices, freights, &c. For instance, I read not long since of a meeting where it was stated, upon the authority of the Times, that the freights from the ranches in the United States, to Chicago, would average 32 shillings per head; from Chicago to New York, a sovereign; and the cost for shipping a carcass or live beast onward to Liverpool is about 50 shillings; that a beast on the plains is worth, roughly, £4, and that, therefore, American fat cattle, dead or alive, would cost in England little less than £10 apiece,

and showing by an accurate calculation that the same beast or carcass could be laid down in England for half that price.

An article from the New York Daily Commercial Bulletin was also commented upon, stating, among other things, that a large amount of jerked beef was annually exported by Argentine and Uruguay, the importations to Brazil and Cuba alone amounting last year, respectively, to these countries, to $1,700,000 and $1,143,000; that no attempt had been made in the United States to compete with Argentine and Uruguay, the only exporters of jerked beef, and it would doubtless be difficult to do so, as the cost of the cattle is much greater in this country. Their transportation facilities to the West Indies are better than ours, notwithstanding the difference in the distance, and a steamer leaves Buenos Ayres for the Brazilian ports every day.

The jerked-beef trade is likewise demanding constant attention. Indeed, there is a society in Montevideo, supported mainly by the Government, with the view of opening new markets for the sale of this product. It is said that a great effort will be made by this society to provide ways and means for substituting in the foreign markets jerked beef for codfish from Sweden and Norway. They claim that the jerked beef is much cheaper and much more nutritious than the codfish, and that no other meat is so healthy; that it can be laid down, free from bone and moisture, in Europe at 5 cents per pound, about one-fourth less than the cost of the codfish; indeed, they go so far as to say that the nutritive value of jerked beef, pound for pound, is greater than that of fresh meat.

About a year ago the Buenos Ayres Standard (owned by the famous statistician, Mulhall) contended that, allowing 1½ pence per pound and 1½ for freight, merino mutton could be placed on the London wharves at 3 pence per pound. A New Zealand correspondent, noticing this, asserts that it cannot be done for less than 3½ pence per pound, but, after commenting upon the importation of mutton from Australia, New Zealand, and the Plate, he admits that, "in merino and the lower grades of mutton, it is only a matter of time for the Plate to smother our Australian neighbors and drive them out of the English market by advantages which the former possess of a slightly lower cost of production and a much lower freight to England."

A sufficiency of transportation is also being provided. In connection with this it is stated, by way of example, that Montevideo is in daily communication with England by telegraph, and almost so by steam, no less than 217 steamers having left England for Uruguay in 1884, besides 198 sailing vessels, making a total of 415, or considerably more than one per diem.

The question, therefore, of freight for the exportation of jerked beef in the returning vessels presents no difficulty. When to this is added that the French and Italian lines are daily going and coming between Montevideo and their respective ports, to say nothing of the sailing vessels of the different nationalities, it will be seen that the country will not suffer for want of freight. Indeed, I am told that the rivalry between the respective lines and boats is so great as to render freights comparatively cheap.

I have bestowed much time and consideration upon this subject. It is of vital importance to the United States, so far as the transportation of frozen beef is concerned, and it is highly important that it should be known that the wealthy, astute, and energetic capitalists of the Plate countries, backed by the money from England, France, Italy, and Ger-

many, are endeavoring, not only to compete with the trade of the United States in this regard, but to rival and finally supersede it.

The Republics of Argentina and Uruguay and Paraguay alone possess over 37,000,000 head of cattle and sheep. Indeed, in a comparison contained in one of the leading journals here, it is stated that there are over 1,500 cattle to every hundred inhabitants of the Plate country, and only a little over 70 cattle to the hundred in the United States. This may be, and I dare say is, exaggerated, though Mr. Curtis, if I am not mistaken, makes the difference still greater. The truth is, the statistics here are generally unreliable. At least I am so advised. The comparison, however, even dropping one-half of the 1,500, is astounding.

Besides this, there is no doubt of the great excellence of the pastures here, and of the succulence of the natural grasses and of their comparative inexhaustibility, nor can there be any doubt of the cheapness of beef, the tenderloin steaks selling in Montevidean markets at 6 cents per pound, and still less doubt that there will always be a sufficiency of transportation for all purposes.

In this connection I will state, that the merchants, shippers, and capitalists of this city (Montevideo), composed, as they are, of all of the great nationalities—English, French, Spanish, German, and Italian—are unusually shrewd, intelligent, and experienced, and for any feasible plan can command, either themselves or through their European acquaintances and houses, any reasonable amount of capital. Indeed, owing to the low interest paid on money in Europe, generally millions upon millions, as the journals here state, are seeking investment at higher rates in the countries of the Plate.

As above stated, my attention was first directed to this subject by reading, in the papers, of the minutiæ of the Chicago meat trade, how to compete with it, &c.

I will only add, in this regard, that there is now a petition before the Buenos Ayres legislature for aid in the transportation of frozen meat.

UNITED STATES DIRECT TRADE WITH URUGUAY.

How to foster and build up this trade is a vexed question, and, together with that of direct trade between the United States and South America, has received, for several years past, the earnest and continuous attention of Congress and the President, without any very definite or satisfactory solution.

I shall not be vain enough to attempt its solution, but will confine myself, in this regard, to a practical instance of how to establish a successful direct trade with Uruguay, as appears in a report made to me by Mr. John G. Hufnagel, United States consular agent at Paysandú, Uruguay, dated March 20, 1886.

Before making extracts from this report, I will state that Mr. Hufnagel, in a conversation had between us previous to his report, remarked to me briefly and in substance that it was idle for the United States to suppose that the trade between the two countries could be either increased or perfected, unless the merchants and capitalists of the United States would invest their money here; that Europe had almost a monopoly of the trade, and that American capital and energy alone could wrest it from its accustomed channels, but that he was satisfied that if American houses or capitalists would invest here and attend to their business they would be successful. The success of his own house,

Hufnagel, Plottier & Co., in connection with A. B. Morton & Sons, of Baltimore, as will be seen from the following extract from his report, illustrates the fact and proves that a judicious investment and attention to business will succeed, not only in paying the investors, but in introducing and familiarizing the Uruguayans with American goods.

I do not know what investment Mr. Hufnagel's firm made. I am advised, however, that the business and ware houses alone are very valuable. The result of the investment will appear from the following extract:

TRADE WITH THE UNITED STATES AND PAYSANDÚ, URUGUAY.

This trade is exclusively carried on by the American firm of Hufnagel, Plottier & Co., in connection with A. B. Morton & Sons, of Baltimore. Its value, according to consular invoices, may be represented by the following figures:

Imports from the United States.

Articles.	1884.		1885.		Increase.	Decrease.
	Quantity.	Value.	Quantity.	Value.		
Pitch-pine ..... feet..	1,654,759	$23,167	2,190,401	$30,665	$7,498	.....
White pine ..... do...	759,967	15,159	777,032	15,540	381	.....
Spruce ..... do...	191,912	2,687	713,553	9,990	7,303	.....
	77,532	4,670	.....	.....	.....	$4,670
Kerosene ..... cases..	5,000	4,730	13,000	12,423	7,693	.....
Rosin ..... barrels..	560	1,704	700	1,995	291	.....
Shooks	.....	2,348	.....	4,227	1,879	.....
Cotton goods	.....	5,187	.....	7,642	2,455	.....
Sugar ropes	.....	.....	.....	.....	.....	.....
Sundries	.....	28,320	.....	11,537	.....	16,783
Total	.....	87,972	.....	94,019	27,500	21,453

This table shows an increase on the previous year of $6,047, to which we must add $12,600, value of 900,000 feet pitch-pine, transshipped to Concordia and Salto; and we have a total increase of $19,329 on 1884.

The exports from Paysandú to the United States were, in 1885, $211,270 against $137,422 in 1884, an increase of $73,848 over 1884; from a previous statement appears, on the contrary, a decrease of $9,239, while in reality there is an increase, as will appear from the following table. This difference is explained by the fact that all articles of export have a fixed official value in the custom-house, while at the consulate the actual price paid is given in the invoice.

The following is an analysis of the leading articles of export for 1885–1884 and their comparative value, declared at the consular agency for 1885–1884:

Articles.	1884.		1885.		Increase or decrease.
	Quantity.	Value.	Quantity.	Value.	
Bones, bone-ash ..... tons..	1,259	$24,646	6,355	$126,580	*101,684
Dry cow-hides ..... number..	11,358	40,700	18,788	70,920	*30,220
Dry kips	.....	.....	6,791	10,700	*10,700
Salted cow-hides ..... number..	11,649	70,836	.....	.....	†70,836
Calf-skins ..... do....	837	230	866	330	*100
Horse-hair ..... bales..	4	960	15	2,940	*1,980
Total	.....	137,372	.....	211,470	.....

* Increase. † Decrease.

From these figures we find a considerable increase in almost all the articles, principally in bone-ash and dry hides; only salted hides show a decrease. According to the above statements the general trade with the United States for 1885 and 1884 is as follows:

Description.	1884.	1885.	Increase.
Import trade	$87,972	$94,019	$6,047
Export trade	137,372	211,470	74,098

Comparing the value of the general trade with the United States in 1885 to that of 1884, we find a general increase of $80,145, or 35 to 36 per cent. in favor of 1885.

The arrivals and departures of vessels to and from the United States were, in 1885, 24, with 11,841 tons register, against 15, with 6,660 tons, in 1884, showing an increase over the previous year of 9 vessels and 5,291 tons, as follows:

Nationality.	1885.						1884.					
	Arrivals.		Departures.		Total.		Arrivals.		Departures.		Total.	
	No.	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*
American	5	3,080	6	3,130	11	6,110	6	3,106	3	1,366	9	4,472
Foreign	7	2,664	6	2,767	13	5,731	6	2,188	....	.....	6	2,188
Total	12	6,044	12	5,897	24	11,841	12	5,294	3	1,366	15	6,660

In another part of his report Mr. Hufnagel states that, "as to machinery, almost all factories are using latest Chicago improvements, modified to their style of work." He also states that the Uruguay River, upon which Paysandú is located, is navigable for sea-going vessels to about 6 miles above that town, and that ships drawing from 14 to 15 feet can reach that port.

I shall not comment upon the foregoing statement. It is a plain and practical instance of what can be done by Americans who choose to invest their capital in Uruguay, and speaks for itself.

It shows, among other things, that the trade of this American firm was more than a third more in 1885 than in 1884; that the trade in "spruce" (pine, I suppose) more than tripled itself in one year, and that in kerosene more than doubled itself, while in cotton goods there was a large increase.

It shows, moreover, what is very important for Chicago, that Chicago machinery is being almost entirely used in factories.

And what is still better, it proves that this energetic and responsible firm is not only prospering, but doing a great service in familiarizing the Uruguayans with United States goods and merchandise.

I can not close my remarks upon this report without stating that Mr. Hufnagel deserves the esteem of the State Department as consular agent at Paysandú. I have been much pleased with his attention, responsibility, and intelligence. The only other practical instance of American trade with the Plate that comes within my individual knowledge is that of Mr. E. C. Eells, of Vermont.

Mr. Eells was a passenger on the same steamer with me to Rio de Janeiro in July, 1885. He had on board a number of Vermont sheep (rams and ewes), for sale in Buenos Ayres. They were by far the finest specimens, so far [as] wool is concerned, I ever saw; and yet I could not understand why he was carrying them for speculation to the Argentine Republic, where there were already over 90,000,000 sheep and only about

3,000,000 inhabitants, and where there were also some of the wealthiest sheep-walks and sheep-farmers in the world, who had spared neither money nor pains in improving their breeds. Indeed, I almost pitied what I regarded as his folly and rashness. The idea of shipping live stock such a distance—a voyage of at least twenty-five or thirty days—with a reshipment at Rio de Janeiro, seemed to me to be an unwarrantable undertaking; indeed, that it was "carrying coals to Newcastle."

The result proved that of the two I was the fool. Mr. Eells disposed of his sheep, I am told, to great advantage, notwithstanding the fact that his wife and friend accompanied him at the exorbitant prices of the passage.

Indeed, he was so well satisfied with his success, that he has returned with another and larger shipment, from which, I trust, he may realize that degree of encouragement which his intelligence and energy deserve.

I will only add, that in my opinion there are not many men gifted with the good sense, good address, and indomitable energy of Mr. Eells.

I allude to this, as it is practical, and though it may be said to be trade in a small way, still it shows successful trade under the most difficult circumstances, and is worth a world of theory.

I shall not be bold enough to say how this South American trade is to be wrested from Europe.

I see but two ways:

First. By building Mr. Helper's international railway, at least so far as to connect with New York.

Second. As Mr. Hufnagel says, by investing American capital here and attending to it.

I was forcibly struck with an article in a late number of the Buenos Ayres Standard (owned as above stated by Mr. Mulhall the famous writer and statistician of this country) upon this subject, in which the editor says, among other things, that "so long as Europe comes here with its millions and Americans come here with itinerating commissions, the business supremacy of Europe in this country will be seen."

In regard to "itinerant commissions" I do not share the sneer, as I have every reason to believe that the able and patriotic gentlemen who composed the commission alluded to, discharged their duty ably and conscientiously. I am satisfied that the skillful employment of American capital is the only "open sesame" to successful American trade in South America. And I am equally well satisfied that the judicious investment of such capital, either in Uruguay or the Argentine Confederation, will meet with a handsome return.

WOOL.

Wool is the chief production of Uruguay. The clip amounts to about 70,000,000 pounds, and is valued at about $10,000,000 United States gold. It consists almost wholly of fine clothing wool, and is remarkable for its fineness, softness, strength, and lightness. The shearing begins in October, and by the 1st of November parcels of the new wool arrive, and by the end of March the clip has found its way to the consuming markets. It comes from the interior in fleeces tied up with string, put up in bags weighing about 250 pounds. After sale, and preparatory to shipment, it is sorted into classes called merino, first, second, third, fourth, and fifth—in all six classes; it is then pressed by horse-power

nto bales, measuring about 42 cubic feet and weighing about 1,000 pounds each.

There is an export duty on wool; the custom-house valuation is $17 per 100 kilograms, and upon this valuation a duty of 6 per cent. is collected.

The principal market for this wool is Antwerp in Belgium, but from Antwerp it finds its way to all parts of Europe, even to Russia, Austria, and Turkey.

The clip of 1885–'86 amounted to about 63,844 bales, and was distributed as follows:

	Bales.
Antwerp, Belgium	31,140
France	13,350
United States	13,404
Germany	3,367
Italy	818
Portugal	968
England	715
Spain	102
Total	63,864

Owing to the low price to which wool declined in 1885–'86, much more was shipped to the United States than is generally consumed there. During the season of 1882–'83 the exports of wool to the United States were 7,080 bales; in 1883–'84, 3,324 bales, and in 1884–'85, 3,942 bales. The import duty on these wools in the United States, 10 cents per pound, is so high that only the finest and lightest can be sent there, and this gives the Germans and French almost a monopoly here, enabling them to buy cheap, and as there is no import duty in either Germany or France, their raw material costs them much less than it costs the American manufacturer, and they consequently can supply this country with all the woolen goods it consumes.

Should the duties on wool in the United States be reduced one-half only it would increase greatly the exports from here to the United States, and the effect would be to decrease the German and French supply of cheap raw material, and thus enable the American manufacturer to compete with them in these markets, and without hurting the interests of the American wool-grower, as wool all over the world would rise in price. The advantage to our country would be that raw material would cost the same to our manufacturers as it costs to the European, and they would be able to compete with them in the supply of woolen goods to the world.

The foregoing information as to wool is furnished by Mr. Thomas W. Howard, United States vice-consul at Montevideo, now acting consul.

He deserves great credit for building up a trade between the United States and Uruguay, being himself the chief of the house of Thomas W. Howard & Co. and conducting the largest wool business in the Republic, as also the largest direct trade with the United States. Mr. Howard's success is another evidence of what American energy and integrity can effect here. He commenced business in this city at the early age of sixteen, and has made a fortune and gained great personal esteem and credit.

Custom-house duties on the principal articles of commerce.

Articles.	Duties.	Articles.	Duties.
	Per cent.		*Per cent.*
Alcohol	51	Lard	26
Ale	51	Linseed	26
Arms	51	Lime	20
Agricultural implements	8	Machinery	26
Bacon	38	Maizena	26
Biscuits	43	Pickles	36
Canned goods	51	Ropes	31
Cheese	51	Resin	20
Cotton cloth	31	Shoes	47
Cotton, manufactured into clothing	47	Starch	43
Cigarettes	51	Sugar	26
Drugs	47	Tobacco	41
Fire-crackers	51	Timber	20
Furniture	47	Turpentine	26
Fruits	43	Tar	20
Flour (see note)	32½	Watches	8
Hams	51	Wicks	26
Kerosene	26		

The duty on flour varies according to the price of wheat, as follows:

When the price of wheat is from—	Per cent.
$2.40 to $3.20 per fanega	32½
$3.21 to $4 per fanega	27½
$4.01 to $4.80 per fanega	23½
$4.81 to $5.60 per fanega	17½
$5.61 to $6.40 per fanega	15½
$6.41 to $7.20 per fanega	12½
$7.21 to $8 per fanega	10½
$8.01 per fanega	7½

The fanaga equals 7.776 bushels.

THE FUTURE OF URUGUAY.

As to the future of Uruguay I shall be very brief, and confine myself to a few salient points. I regard her success in the future as assured.

Buckle (History of Civilization, first volume) says that the physical agents by which the human race is most powerfully influenced are climate, food, soil, and the general aspects of nature. If this be true, Uruguay is peculiarly blessed by nature. The Republic lies within the south temperate zone, and the climate is admitted, historically and geographically, to be one of the most perfect in the world. Its unusual salubrity is likewise conceded. The soil cannot be excelled, especially so far as native grasses are concerned, and, generally speaking, it is just undulating enough to drain well and please the eye. It rejoices in the production of all trees, fruits, flowers, vegetables, and grain peculiar to a temperate zone. The orange flourishes to a certain extent, but not the banana, pineapple, and other tropical fruits. The south of Brazil, and even part of Uruguay, says Buckle (History of Civilization), "possesses a fertility not to be found in any country of North America situated under a corresponding latitude." The food of its people is the same as that of the United States and Europe—beef, mutton, wheat, corn, &c.

It is wonderfully blessed in the fourth element, "the general aspects of nature." In no clime or country are the skies and seas, hills and dales, rivers and streams, meadows and fields, gardens and trees, pastures green and babbling brooks, fruit, flower, and fern more perfect.

It therefore rejoices in the four great physical elements of success above alluded to.

In addition to these it has a fine population. As already stated, the negro and the "mestizo" have nearly disappeared, and their places supplied by European immigration, principally from Spain and France and Italy, though there are a large number of Englishmen, many of whom are wealthy and intelligent; and even where, in the interior, the old Indian

or gaucho blood shows itself, the admixture of the European tempers and masters it. Indeed the blood of the best races of the world is here intermixed, and shows itself conspicuously in the beauty and grace of the women, the gallantry and courtesy of the men, and the virtue and devotion of the matron and maid.

The republican form of government guaranteed by the constitution is another element of success; for although there is a lack of stability in the Government, and revolutions are quite frequent, still there are hopes that the virtues of a democratic form of government will sooner or later avoid that, and tend to the amelioration of the masses and check the frequent revolutions. Indeed, there have been fewer revolutions within the last four years than ever before known in the history of Uruguay.

Another important factor entering this success is the large number of cattle and sheep in the Republic, which increase annually, and, under even moderate care, must continue to increase, owing to the inexhaustible pastures and the succulency of the native grasses.

Vaillant, the best-informed statistician in this regard, says that no nation in the world can compare with Uruguay in the wealth per head of its inhabitants in live stock—"*la valeur du bétail de toute espèce*"—such wealth amounting to $192 for every man, woman, and child in the Republic.

Besides this, its sheep-walks are unusually good; and Mr. Hill, the wealthy and intelligent American estanciero of Uruguay, whose articles to the New York Herald and Tribune I have before referred to, informs me that almost the whole of the agricultural and pastoral lands of Uruguay are now under wire fencing, at a cost of not less than $12,000,000 or $15,000,000, a smooth steel wire being used for that purpose.

The commerce of Montevideo is also large and flourishing; her merchants are wealthy, shrewd, and intelligent, and she has the best port south of Rio de Janeiro; indeed, taking health into consideration, especially the absence here of yellow fever, small-pox, &c., perhaps the best, or at least the most available, on the Atlantic coast of South America. It will easily be seen that her commerce must increase; indeed, as I advised the Department in a former dispatch. A contract has been entered into between Uruguay and Messrs. Culbill & Son, of London, for the deepening and improving of the harbor and channel of Montevideo, from which great commercial facilities are anticipated.

I will only cite a single authority upon this subject, Señor Zapata Vera, whose articles on the "foreign trade of Spanish America" are highly spoken of here. In a table of the exports of each of these countries, including Central America and Mexico, he estimates Uruguay as second only in comparison of the exports of each country in 1883 according to population. His table, reducing the values into sterling, at $5 to the pound, would be as follows:

Nation.	Population.	Exports.	Exports per head.
Brazil	11,834,000	£24,019,000	£2 0s. 5d.
Spanish possessions	2,253,000	15,762,000	6 19 2
Argentine Republic	2,540,000	10,530,000	4 4 5
Peru	2,374,000	5,736,000	2 8 0
Chili	2,234,000	5,237,000	2 6 9
Mexico	10,447,000	3,383,000	6 5
Venezuela	2,075,000	3,342,000	1 12 0
Central America	2,594,000	3,190,000	1 4 5
Hayti	922,000	3,104,000	3 7 2
Colombia	4,000,000	2,909,000	14 2
Uruguay	509,000	2,585,000	5 2 0
Ecuador	947,000	1,116,000	1 3 7
Bolivia	2,325,000	878,000	7 5

The average value of Spanish American exports in 1883 per inhabitant, according to this table was £6 19*s.* 2*d.* Uruguay, it will be seen, takes the second place, £5 2*s.*, and Mexico the last, with only 6*s.* 5*d.* Señor Vera states, also, that the United States seems to be the best market for the produce of Brazil, the Spanish possessions, Mexico, Venezuela, and Central America; France, for those of the Argentine Republic, Colombia, Uruguay, and Hayti; Germany, for Ecuador and Bolivia; and England, for Chili and Peru.

In the order of their producing capacity, Señor Vera places the Argentine Republic and Uruguay in the first place, followed by Brazil, the Spanish possessions, Mexico, Venezuela, Central America, Hayti, Colombia, and Ecuador, and in the third place Peru, Chili, and Bolivia.

I do not vouch for the accuracy of this tabular statement. In point of fact, I find it in the Buenos Ayres Standard, and I am inclined to think that Señor Vera is mistaken, or that the paper unintentionally misrepresents his report.

For instance, according to this table the exports of Uruguay in 1883 amounted to only $12,925,000, whereas, according to the last report of the bureau of statistics of Uruguay the exports were, for 1883, $25,221,664—more than double. And the late report of the Bureau of Statistics of the United States puts it at $22,993,990 for 1882. Said table also states the exports of Chili in 1883 to be $26,185,000, whereas, according to the report of the Chief of the Bureau of Statistics of the United States, the exports of Chili in that year amounted to $72,716,088, almost three times as much.

The same (latter) report, however, states (page 12) that the exports of the whole of South America (designating the United States of Colombia, Venezuela, Brazil, Uruguay, Argentine Republic, Chili, and Peru) amounted in the year 1884 to only $214,383,580, and, at page 84, the export trade of Chili for 1884 is stated to be $17,722,815, and for 1883 at $22,573,360.

The two last-named tabular statements do not mention specie, as does the first statement (page 8), but are confined to the exports to the United States, United Kingdom, France, and Spain; but it would seem that under no circumstances could the difference between the statements be so great, that is, $72,716,088 for 1883 on page 9, and only $22,573,360 on page 84.

Moreover, if the whole of South America exported only $214,383,580 in 1884, Chili in 1883, according to page 9, would have exported more than one-third of the entire South American products.

Again, if Señor Vera is wrong and the Uruguayan and United States Bureau of Statistics right, the first stating the exports of Uruguay for 1883 at $12,925,000, and the latter for the same year at $25,221,664, and the United States Bureau at $22,993,900 for 1882, it will be seen that instead of Uruguay being second on the list of exports per inhabitant, as Señor Vera states, she would be far in the lead of the others.

I am of the opinion that the Uruguayan and United States Bureau of Statistics are nearer the truth as to this matter of Uruguayan exports for 1883 than is Señor Vera, first, because the said bureaus have far better and more accurate sources of information upon the subject, and, secondly, because the United States Statistical Report, just above referred to, states the exports in 1882 to have been $22,993,990, which exceeds that of the Uruguayan Bureau, which for that year is $22,062,934.

I cannot reconcile these conflicting statements, and allude to them with the wish to ascertain the truth, and to establish, if possible, the real state of the matter.

I have never been familiar with statistics, and may be entirely wrong as to the whole matter. My ignorance, however, may serve to clear up the apparent confusion.

After a careful study of the subject, strengthened by experience and travel in South America, I am satisfied that the Argentine Republic and Uruguay are bound to be the great and controlling powers of South America. In this may be included Chili. These are the only states lying within the temperate zone. The tropic of Capricorn passes through San Paulo in Brazil and the extreme upper lines of Paraguay and the Argentine Republic and just above the northernmost limits of Chili. All the rest of South America lies within the torrid zone and are therefore tropical regions, within which it is conceded that no great general mental development has ever been attained. Take for example Brazil, almost as large as Europe, and physically the most richly endowed country of the world, where the "growth is so rank and luxuriant that nature seems to riot in the very wantonness of its power," and yet the same distinguished author above quoted says:

> The whole of Brazil, notwithstanding its immense apparent advantages, has always remained entirely uncivilized; its inhabitants wandering savages, incompetent to resist those obstacles which the very bounty of nature had put in their way. * * * Along the coast of Brazil there has been introduced from Europe a certain amount of that civilization which the natives by their own efforts could never have reached. But such civilization, in itself very imperfect, has never penetrated the recesses of the country, and in the interior there is still found a state of things similar to that which has always existed.

If I dared to differ with an author so learned and distinguished as Mr. Buckle, I would say that this language is exaggerated. Indeed, there is a portion of Brazil, by no means small in area, within the temperate zone. The tropic of Capricorn, as above stated, passes through San Paulo, and it may be said that the whole country from Cape Frio, just above Rio de Janeiro, down is capable of that high degree of civilization reached in the temperate zones—indeed, may be said to be within that zone.

I think it may be safely said, however, that wherever the banana flourishes extensively no great degree of civilization can be attained. The same may be said of the date. Wherever the banana flourishes the slothful Indian will be found, and wherever the date-tree flourishes the wandering Arab will appear. The banana, indeed, is the Upas tree of civilization. Its productive qualities are so great that little or no labor is required to mature it, and the climate in which it flourishes is so enervating as to still the progress of improvement. McCullough (Geographical Dictionary, vol. 2, p. 15), says that "an acre sown with it will support more than fifty persons, whereas the same amount of land sown with wheat in Europe will only support two persons." And Humboldt (Nouvelle Espagne) says that its produce is one hundred and thirty-three times greater than that of wheat, and forty-four times greater than that of potatoes.

In the tropical regions, therefore, where the climate is so enervating, and food like that of the banana so easily produced and obtained, there is neither the necessity nor inclination for mental or physical labor.

I allude to this matter with some care, in order that the United States in extending and fostering her South American trade may be induced to consider the question, and, if there is any truth in what I suggest, may cultivate intimate relations with the countries above named lying within the south temperate zone.

SPECIAL INFORMATION.

In reply to the letters from professional men, I would simply say to lawyers and physicians that, unless they can speak Spanish, there would be little chance of success. Both of these professions rank high here and in Buenos Ayres, and large fees are demanded and received.

Engineers, railroad experts, and men generally acquainted with the "exact (practical) sciences" are in demand—subject, of course, to a knowledge of the Spanish language.

I am credibly advised that both agricultural (arable) and pasture lands, improved and fenced with wire, may be had in good healthy localities for $5 per acre.

THE CITY OF MONTEVIDEO.

I might say much as to the city of Montevideo, but for all practical purposes it will suffice to state that it is most beautifully located on rather an elevated plain, overlooking the bay, ocean, or river Plate, in almost every direction; the "mount" from which it takes its name being, in reality, outside of the city limits, in fact across the bay, but accessible both by steamers and street cars.

The population is variously estimated at from 120,000 to 150,000. Its universities, schools, asylums, churches, theaters, custom-houses, exchange, &c., are of the first order; its citizens are wealthy, refined, educated, and intelligent. The men are gallant and courteous, the women unusually handsome and graceful, and the society of Montevideo, composed as it is of natives (Orientals), Spanish, French, Italian, and English families, is not elsewhere excelled in general intelligence, culture, and refinement; in fact, it is rather remarkable for the hospitalities and amenities of life.

The climate is almost perfect. The city, owing to its location on a quasi ridge, which slopes, on each side, to the sea, is comparatively clean, as it drains itself naturally. It is unusually healthy. Indeed, for invalids, especially that class of invalids who are suffering from general debility, nervous prostration, overwork, &c., Montevideo is, I am advised, almost a panacea. Especially is this true of the wonderfully beautiful *quintas* (country villas) with which the city is surrounded. Nowhere are these villas more attractive. Many of them are built in cottage style, while not a few are really palatial. All of them have gardens, from a quarter of an acre to 20 acres, &c. These gardens, owing to the mildness of the winter climate, are redolent the year round with the most lovely and gorgeous flowers, from the delicate harebell to the grand and gorgeous *Magnolia grandiflora*. The fruits and flowers of these villas are, indeed, indescribably beautiful. The geraniums are so large and plentiful as to form hedges of parti-colored leaves and flowers, the pansies are apparently endowed with immortality, the greensward mocks the emerald, the sea is as blue as the "blue grotto" itself, and the skies are as "azure as azure can be."

This may be regarded as a piece of fancy. Not so. Indeed, it is well known that words fail to paint the beauties of nature, and I really have used no varnish.

These quintas (villas) are leased at easy rates, in fact comparatively cheap, the cottage (acre) villa ranging from $30 to $50 per month, and the more palatial, of several acres, from $75 to $150 per month.

Rents in the business part of the city are unusually high for a city of 130,000. Flats and suites of rooms, unfurnished, command per month

from $60 to $200, the usual price for from seven to ten rooms being from $75 to $125 per month. The wages of servants are also high. Beef, mutton, fish, fruit, vegetables, and flowers are cheap. Bacon, lard, butter, milk, &c., are dear.

I shall make no apology for the imperfections of this report. As I have said, the histories, and especially the statistics, of Uruguay are very unreliable and imperfect.

JOHN E. BACON,
Chargé de Affaires.

LEGATION OF THE UNITED STATES,
Montevideo, August 27, 1886.

REPUBLIC OF URUGUAY.

REPORT OF CONSUL BRIDGERS, OF MONTEVIDEO.

This Republic, which is commonly called Banda Oriental, is the smallest independent state in South America, and the most favored in point of climate, soil, and geographical position.

It forms a parallelogram between 30° and 35° south latitude and 58° west longitude, with an area of 7,036 square leagues. Its physical outlines present a varied aspect in contrast with the flat pampas on the Argentine side of the river Plate, and the abundance of wood and water is of immense advantage to settlers, whether pastoral or agricultural. The coast line of 200 miles on the Atlantic, 155 on the river Plate, and 270 on the Uruguay, offers great facilities to coasting and sea-going commerce, while the sea-breezes from the Atlantic moderate the heat of summer.

The soil is rich and fertile, producing in abundance every kind of grain or fruit known in temperate or subtropical climes. The medicinal plants comprise poppy, wormwood, gentian, balsam, coriander, camomile, licorice, marsh-mellow, rosemary, elder, and sarsaparilla.

While various minerals are found, none have ever been profitably worked.

Peace, under any form of administration, would enable this Republic to make wonderful progress; and as it is, the progress has been remarkable, when we consider its history for the past seventy years. Since 1814, when the Spanish fleet was destroyed, compelling the surrender of the last Spanish stronghold east of the Andes, it has rarely enjoyed more than twelve months of entire peace. In 1815 the Banda Oriental, as it was then called, seceded from the Argentine Confederation and became a separate Republic. In 1821 it was annexed to Brazil, in 1825 the standard of revolt was raised, and in 1827 the Argentines overthrew the Brazilians at the battle of Ytuzaingo.

The Republic of Uruguay was constituted in 1830, but in 1836 civil war commenced, lasting for sixteen years, until 1852, by which time the Republic was almost reduced to a wilderness. From 1852 to 1864 there were eight governors; in the latter year General Flores was installed by the Brazilians, after blockading Montevideo. It is useless to speak of the many changes and revolutions, including the one early in 1886, that have taken place in the past twenty-two years.

POPULATION.

In spite of the frequent civil wars the population has increased rapidly.

Year.	Population.	Increase.	Increase per annum.
			Per cent.
1796	30,700		
1829	74,000	43,300	4
1852	131,900	57,900	3
1860	221,300	89,400	9
1884	476,000	254,700	5

The greatest increase was from 1852 to 1860. The troubles of recent years have not prevented an annual increase of 5 per cent. The average vital statistics for ten years ending 1877 shows birth rate 45, death rate 27, increase 18, per 1,000. The annual net influx of immigrants must, therefore, have averaged 6,000 persons per annum since 1860. Vital statistics compare with those of other nations as follows, per 1,000 inhabitants:

Countries.	Births.	Deaths.	Increase.	Marriages.
Republic of Uruguay	45	27	18	7.5
Argentine Republic	40	27	13	7.8
United Kingdom	34	21	13	7.5
France	26	24	2	7.9
Germany	40	27	13	8.8
Austria	40	31	9	8.4
Sweden	30	18	12	7.1
Australia	36	15	21	7.0
Canada	32	18	14	7.0

A correct census has never been taken, and it is probable that the population is really 10 per cent. more than supposed, which would make the vital statistics read thus: Birth rate, 41; death rate, 23; increase, 18, per 1,000 inhabitants; otherwise it can only be explained by the large proportion of foreign settlers in the prime of life, who would, of course, have a high birth-rate.

The census of 1860 showed 35 per cent. of the population to be composed of foreigners (including Argentines), and the register of deaths in 1874–'78 showed the same proportion. This proportion is not approached in any other country but Australia, as the following table shows:

Countries.	Per 1,000 inhabitants.	
	Native.	Foreign.
United Kingdom	995	5
Germany	994	6
Italy	990	10
Chili	987	13
France	977	23
Brazil	974	26
Switzerland	922	78
United States	866	134
Argentine Republic	830	170
Buenos Ayres	747	253
Uruguay	652	348
Australia	613	387

Number of immigrants arriving in fifty years.

Period.	Number.	Per annum.
1835–'42	33,100	4,140
1843–'52	3,500	350
1853–'62	28,000	2,800
1863–'72	143,000	14,300
1873–'84	115,000	9,600
Total	322,600	6,450

It is quite certain that one-half of these persons arrived by sea proceeded to Buenos Ayres, and it has already been shown that the net immigration since 1860 cannot have exceeded 6,000 per annum, which would be exactly half the average of 1863–'84, as stated above. The nationality of the arrivals compares as follows with Buenos Ayres in percentage:

Nationality.	Montevideo.	Buenos Ayres.
Italians	54	70
Spaniards	22	10
French	5	10
English	3	2
Various	16	8
Total	100	100

There are eight agricultural colonies, of which, however, only four are of any importance. The population, &c., appears as follows:

Name.	Department.	Population.	Crop.	Acres.
			Bushels.	
Piemont	Colonia	2,200	330,000	40,000
Suiza	do	1,800	220,000	26,000
Canaria	do	500	80,000	10,000
Cosmopolite	do	900	140,000	16,000
Porvenir	Paysandú	300	50,000	5,000
Trinidad	do	190	30,000	3,000
Berlin	do	180	40,000	4,000
Dias	Soriano	170	30,000	3,000
Total		6,240	920,000	107,000

The crop is half wheat, half maize, valued at $630,000. The area under the above colonies is 110,000 cuadras (220,000 acres), and the wealth of the colonists is summed up thus:

Property.	Value.	Per head.
Lands	$1,620,000	$257
Houses	710,000	115
Cattle	660,000	105
Sundries	640,000	103
Total	3,630,000	580

The increase of agriculture is very remarkable in the last thirty years, viz:

Years.	Wheat.	Maize.	Total.	Per inhabitant.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
1855	700,000	400,000	1,100,000	8
1860	1,300,000	600,000	1,900,000	9
1870	2,100,000	700,000	2,800,000	9
1878	2,600,000	1,600,000	4,200,000	9½
1883	3,500,000	1,200,000	4,700,000	10

There are only six departments in which agriculture is attended to, and the extent of land set apart for tillage is as follows:

Departments.	Cuadras.*	Acres.	Acres per inhabitant.
Canelones	186,600	360,000	8
San José	77,000	150,000	6
Colonia	51,400	100,000	4
Maldonado	37,700	70,000	2½
Florida	16,100	30,000	1
Paysandú	16,000	30,000	1
Total	384,800	740,000	.....

*The Argentine cuadra has more than 4 acres; the Uruguayan barely 2 acres.

Only two-thirds of the above are actually under crops, that is 540,000 acres, or 115 acres for 100 inhabitants, which compares with other countries as follows:

Acres tilled per 100 *inhabitants.*

Countries.	Acres.	Countries.	Acres.	Countries.	Acres.
Australia	370	United States	302	Argentine Republic	148
Canada	325	Russia	222	Uruguay	115
Denmark	320	Europe	151	United Kingdom	66

The principal crops are estimated to be:

Crop.	Cuadras.	Acres.	Crop value.
Wheat	180,000	340,000	$3,500,000
Maize	42,000	80,000	650,000
Sundries	62,000	120,000	1,320,000
Total	284,000	540,000	5,470,000

The increase of cattle of all kinds in twenty-four years has been:

Description.	1860.	1884.	Increase.
			Per cent.
Cows	5,220,000	6,826,000	31
Horses	740,000	666,000	.....
Sheep	2,590,000	10,536,000	310
Value	$30,100,000	$85,500,000	180

The official valuation in 1880 did not exceed $65,000,000, of which $52,000,000 was for cows; but that estimate was too low, horses having been valued at only $3 each. The value of cattle compared with population is remarkably high, the ratio to each inhabitant being:

Uruguay	$175
Argentine Republic	111
Australia	106
Canada	40
United States	38
United Kingdom	33
France	28
Europe	26

The annual consumption of horned cattle is officially stated thus:

	Head.
Home meat supply	480,000
Live cattle exported	102,000
Killed in saladeros	563,000
Total	1,145,000

The last item includes 150,000 killed for Liebig's beef extract. Neither sheep nor cattle have much increased since the introduction of wire fences. During the last ten years the estancieros have spent $1,000,000 yearly in fences, the area of land newly fenced averaging 400 square leagues per annum; thus one-half of the Republic is now fenced at an outlay of $10,000,000.

Public wealth was officially stated in 1880 at $377,000,000, and amounted in 1884 to $406,000,000, the various items comparing with Buenos Ayres and the Argentine Republic as follows:

Items.	Uruguay.	Buenos Ayres.	Argentine Republic.	Per inhabitant.		
				Uruguay.	Buenos Ayres.	Argentine Republic.
Lands	$82,000,000	$301,000,000	$486,000,000	$172	$330	$163
Cattle	85,000,000	202,000,000	330,000,000	178	220	111
Houses	137,000,000	303,000,000	469,000,000	288	333	142
Public works	20,000,000	98,000,000	164,000,000	42	108	69
Sundries	12,000,000	231,000,000	363,000,000	172	254	1.0
Total	406,000,000	1,135,000,000	1,812,000,000	852	1,245	615

The ratio of wealth compares favorably with many countries, viz:

United Kingdom	$1,240
Holland	1,202
France	1,190
Denmark	999
Australia	998
United States	905
Uruguay	852
Canada	743
Europe	631

The earnings of the people are also high:

Pastoral products	$21,100,000
Agricultural	5,470,000
Various occupations	28,550,000
Total	55,120,000

The average earnings per annum compare with the ratios in other countries as follows:

Australia	$220
United Kingdom	175
Buenos Ayers	170
United States	135
Canada	134
France	130
Uruguay	116
Argentine Republic	110
Europe	91

It is worthy of remark that each inhabitant of Uruguay has 40 per cent. more wealth than the Argentine Republic, while his earnings are only 6 per cent. higher.

Some of the departments are much richer and more populous than others, as will be seen, thus:

Departments.	Population.	Square leagues.	Cows.	Sheep.	Total wealth.	
					Amount.	Per inhabitant.
Montevideo	120,000	25	4,000	6,000	$110,000,000	$920
Canelones	44,000	179	16,000	115,000	14,000,000	325
San José	25,000	432	324,000	1,865,000	21,000,000	840
Colonia	26,000	214	261,000	1,165,000	15,000,000	576
Soriano	28,000	347	418,000	1,758,000	21,000,000	750
Paysandú	39,000	817	1,240,000	926,000	41,000,000	1,050
Salto	39,000	903	1,046,000	481,000	36,000,000	930
Tacuarembo	24,000	1,161	1,034,000	476,000	83,000,000	1,370
Cerro Largo	36,000	837	845,000	355,000	30,000,000	830
Durazno	22,000	539	472,000	927,000	23,000,000	1,045
Florida	23,000	456	295,000	1,366,000	20,000,000	870
Minas	23,000	554	484,000	635,000	22,000,000	906
Maldonado	27,000	575	455,000	466,000	20,000,000	741
Total	476,000	7,039	6,794,000	10,541,000	406,000,000	852

The classification of the inhabitants according to nationalities and wealth is as follows:

Nationality.	Number.	Wealth.	Ratio.		Per head.
			Population.	Wealth.	
Natives	310,000	$169,000,000	65.2	41.6	$545
Spaniards	44,000	57,000,000	9.2	14.0	1,280
Italians	39,000	51,000,000	8.2	12.6	1,310
Brazilians	22,000	67,000,000	4.6	16.5	3,050
French	16,000	26,000,000	3.4	6.4	1,620
English	3,000	14,000,000	0.6	3.5	4,660
Various	42,000	22,000,000	8.8	5.4	520
Total	476,000	406,000,000	100.0	100.0	852

From the above it appears that 166,000 foreigners possess $237,000,000, which is an average of $1,440 each, whereas the average for natives is little more than one-third of that amount. The construction of railways, however, which must take place in time, will have the effect of doubling and trebling the fortunes of natives by enhancing the value of lands, which constitute the bulk of their wealth, three-fourths of the area of the Republic being their property. Brazilian settlers own 1,500 square leagues in the frontier. The real property belonging to Europeans

is mostly houses in the city of Montevideo, although there are a few Englishmen who are large land owners.

The only railroads are as follows:

Railroads.	Miles.	Cost.
Central Uruguay, Montevideo to Durazno	130	£1,300,000
Central branch, Santa Lucia to San José	20	200,000
East Uruguay, Montevideo to Pando	25	220,000
Northwestern Uruguay, Salto to Jacuy	65	650,000
Total	240	2,370,000

Thus costing in United States currency about $48,000 per mile, which, when we consider the country through which it runs, is entirely too much. But for the civil wars of 1863–'85 this Republic would have, perhaps, got ahead of the Argentine Confederation in the matter of railroads. The following table shows mileage and railroad capital compared with population:

Countries.	Miles per 100,000 inhabitants.	Railway capital per inhabitant.
United States	210	$115
Australia	190	102
Canada	178	85
Argentine Republic	80	27
Switzerland	60	61
United Kingdom	52	110
Uruguay	50	25
Brazil	42	25
Chili	38	20
Europe	34	40

Besides the lines working the following extensions are proposed:

For—	Miles.	Cost.
Durazno to Mercedes	100	£800,000
San José to Colonia	70	560,000
Pando to Cerro Largo	180	1,300,000
Jacuy to Santa Rosa	52	520,000
Durazno to Tacuarembo	150	1,200,000
Tacuarembó to Santa Rosa	135	1,100,000
Salto to Fray Bentos	140	1,100 000
Paysandú to Cerro Largo	240	1,700,000
Total	1,067	8,280,000

Mail coaches traverse the country in all directions, some weekly, others oftener; various routes traversed exceed 7,000 miles. The following statement shows the post-office returns of miles run monthly on postal service:

	Miles.
By railway	15,000
By steamboat	31,500
By mail coaches	71,500
Total	118,000

Electric telegraphs connect all the departments with Montevideo, the various lines making up 1,240 miles, viz:

	Miles.
Platino	530
Central	150
Oriental	310
River Plate	120
Government	65
Northwestern	65

Public instruction has made great strides in recent years. In 1860 the schools counted 4,500 children, which number rose to 19,200 in 1870 and 42,800 in 1883. The sexes of school children in 1880 were 54 per cent. boys, 46 per cent. girls.

There were 30 public schools in 1860 and 310 in 1880. Between public and private there were 688 schools in 1883. The proportion of school children to population is high, 88 per 1,000 inhabitants, against 42 in the Argentine Republic. The cost of the public schools is $360,000, equal to $15 per scholar, or 75 cents per inhabitant, which compares with some other countries as follows:

Countries.	Per scholar.	Per inhabitant.
Uruguay	15	0.75
Argentine Republic	10	0.76
United Kingdom	9	1.02
France	3	0.35
Germany	6	0.71
United States	9	1.55

There are 21 daily and 40 weekly papers in the Republic; circulation small—about 30,000 copies. Post-office returns show 2,400,000 letters and papers, being 505 per 100 inhabitants, against 610 in the Argentine Republic, 720 in Spain, and 980 in Chili.

The banking capital and emission of notes on September 1, 1886, were as follows:

Banks.	Capital September, 1886.	Emission of notes.
Commercial Bank	$1,594,000	$2,538,000
London and River Plate Bank	1,500,000	2,688,000
English Bank and the River Plate	940,000	929,000
London and Brazilian Bank	216,000	.....
Total	4,250,000	6,155,000

The emissions of notes compare with other countries as follows:

	Per capita.
Uruguay	$12
Argentine Republic	17
United Kingdom	6
France	13
Europe	8
United States	14

The annual average of exports and imports has been as follows:

Period.	Imports.	Exports.	Total.	Per inhabitant.
1840-'50	$6,500,000	$6,100,000	$12,600,000	$102
1851-'60	8,700,000	8,400,000	17,100,000	101
1861-'70	12,900,000	11,500,000	24,400,000	90
1871-'77	17,500,000	14,300,000	31,800,000	32

The ratio of trade per inhabitant for 1883, 1884, and 1885 is the largest in the world.

Great Britain	$82
Uruguay	100
France	45
Argentine Republic	45
Germany	35
United States	31

When we consider the unsettled condition of the country and the great difficulties against which business has had to contend, this is indeed a remarkabable showing. But there is every reason to believe that the foreign business is far larger than would appear from the foregoing.

The exports from Uruguay to the United States from 1878 to 1885 inclusive was $21,180,832, while the certified invoices on file at this consulate show that from Montevideo alone it was $33,448,448. Estimating that 75 per cent. of the business was done through this port, we should have $44,597,931, instead of $21,180,832; a difference of $23,417,099, or over 111 per cent.

The average percentage may not be as great, but the difference between the custom-house reports and the actual business done, especially with France and England, is very large.

Having examined the bright side of the picture, we must now turn to the dark. National revenue, expenditure, and debt have risen as follows:

Year.	Annual average.			Amount of debt.	Revenue per inhabitant.
	Receipts.	Expenditure.	Deficit.		
1832-'40	$800,000	$1,150,000	$350,000	$2,850,000	$8 50
1841-'50	1,000,000	1,400,000	400,000	6,850,000	9 10
1851-'68	2,100,000	3,500,000	1,400,000	20,570,000	13 00
1861-'70	3,200,000	5,900,000	1,700,000	37,640,000	12 00
1871-'80	6,500,000	7,900,000	1,400,000	51,360,000	17 00
1881-'83	8,100,000	9,120,000	1,020,000	61,580,000	17 00

By the unification of the public debt, effected in London in 1883, the amount was fixed at $55,600,000, to which adding the Government paper money, the total becomes $58,000,000. The present debt is as follows:

Uruguay public debt, September, 1886.

Central Uruguay Railway	$816 000
Railway to Santa Rosa	1,800 000
Railway to Higueritas	670 000

Amortizable		$2,015 000
Consols 1886		8,000 000
Consols 1886, second series		4,700 000
Unified		51,600,000
		69,601 000

International.

Anglo-French	$468,000	
Italian	830,000	
French	1,685,000	
Spanish	275,000	
		3,258,000
Total, Uruguyan currency		*72,859,000
Total, United States currency		75,423,636

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Navigation at the port of Montevideo for the years 1882, 1883, *and* 1884.

ENTERED.

Flag.	1882.				1883.				1884.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*	*No.*	*Tons.*
British	176	91, 816	186	289, 374	165	106, 604	203	320, 480	158	110, 714	275	413, 977
American	33	20, 440	.....	.....	26	14, 039	1	78	45	29, 128	3	2, 434
Spanish	101	33, 679	9	15, 492	117	24, 429	14	24, 601	99	21, 965	9	12, 446
French	18	28, 205	101	181, 203	13	6, 042	118	201, 959	15	5, 057	119	205, 864
Italian	124	61, 196	36	44, 415	121	62, 914	48	60, 224	157	85, 244	40	66, 953
German	51	18, 933	76	103, 907	49	14, 173	107	147, 496	62	16, 572	109	152, 249
Brazilian	25	4, 929	73	33, 470	17	3, 161	57	24, 408	22	4, 326	56	28, 394
Belgian	1	315	21	27, 070	1	1, 261	17	23, 111	.....	.....	20	23, 938
Swedish and Norwegian	50	22, 878	.....	.....	40	21, 198	.....	.....	89	49, 592	.....	.....
Argentine	2	394	11	2, 525	3	1, 300	6	1, 374	4	1, 422	5	3, 467
Dutch	14	2, 933	2	1, 934	12	2, 412	.....	.....	8	1, 586	.....	.....
Hungarian	10	3, 835	1	1, 126	19	8, 998	.....	.....	27	17, 254	2	3, 069
Danish	7	1, 618	3	2, 915	8	1, 543	3	1, 504	14	3, 392	.....	.....
Portuguese	7	1, 604	.....	.....	8	1, 754	.....	.....	3	697	.....	.....
Uruguayan	2	278	.....	.....	1	248	.....	.....	1	1, 051	1	162
Chilian	1	1, 486	1	62	.....	.....	2	333	.....	.....	.....	.....
Greek	1	551	.....	.....	.....	.....	.....	.....	2	665	.....	.....
Russian	.....	.....	.....	.....	.....	.....	.....	.....	4	2, 878	.....	.....
Colombian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	520
Total	683	295, 090	520	703, 582	600	270, 066	576	805, 568	710	351, 543	643	913, 473
Coastwise and rivers	2, 245	146, 762	756	612, 483	2, 022	122, 028	834	728, 219	1, 952	164, 923	1, 056	881, 967

CLEARED.

British	131	84, 448	200	395, 047	151	97, 690	201	319, 264	116	88, 752	256	392, 728
American	26	16, 114	.....	.....	15	9, 273	.....	.....	30	20, 071	4	3, 434
Spanish	148	30, 857	8	13, 194	101	20, 102	15	25, 360	93	19, 958	10	13, 190
Italian	100	49, 185	35	42, 773	112	60, 527	42	54, 727	121	69, 811	44	69, 294
French	17	8, 445	90	175, 918	10	3, 555	113	200, 908	13	4, 991	102	184, 622
German	37	16, 903	70	96, 388	38	12, 304	102	140, 418	40	10, 315	101	141, 407
Brazilian	22	4, 076	74	33, 778	16	3, 121	56	24, 996	18	3, 398	58	31, 389
Belgian	1	315	18	22, 777	.....	.....	17	21, 285	.....	.....	21	26, 523
Swedish and Norwegian	46	21, 576	.....	.....	30	16, 584	.....	.....	63	36, 409	.....	.....
Argentine	.....	.....	11	2, 519	1	20	6	1, 374	.....	.....	.....	.....
Dutch	14	2, 886	2	1, 934	11	2, 220	.....	.....	9	1, 905	.....	.....
Hungarian	13	5, 100	1	1, 126	13	7, 286	.....	.....	26	16, 473	2	3, 069
Danish	8	2, 101	2	1, 939	5	1, 229	2	1, 091	14	3, 236	.....	.....
Portuguese	6	1, 267	.....	.....	6	1, 316	.....	.....	4	1, 077	.....	.....
Uruguayan	.....	.....	.....	.....	2	1, 247	.....	.....	.....	.....	.....	.....
Chilian	1	1, 479	1	62	1	45	1	288	.....	.....	.....	.....
Greek	1	307	.....	.....	1	551	.....	.....	.....	.....	.....	.....
Russian	.....	.....	.....	.....	.....	.....	.....	.....	2	1, 520	.....	.....
Colombian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	519
Total	571	245, 059	521	697, 476	496	237, 070	555	789, 711	549	277, 916	602	866, 181
Coastwise and rivers	2, 359	200, 554	755	621, 414	2, 097	159, 492	833	728, 976	2, 089	206, 036	1, 101	945, 666

Exports and imports of Uruguay from 1878 to 1885, inclusive.

(In United States currency.)

1878.

Countries.	Exports.	Per cent.	Imports.	Per cent.	Total.
United States	$1,133,927	6.27	$1,016,748	6.17	$2,150,675
England	4,553,627	25.15	5,056,826	30.70	9,610,453
France	3,258,296	17.99	2,715,326	16.48	5,973,622
Brazil	4,394,194	24.28	2,024,079	12.28	6,418,273
Spain	39,442	0.22	1,416,299	8.59	1,455,741
Germany	76,951	0.42	837,410	5.08	914,361
Italy	296,610	1.63	897,873	5.45	1,194,483
Argentine Republic	592,720	3.28	354,651	2.16	947,371
Belgium	1,838,082	10.16	392,985	2.39	2,231,067
Cuba	1,133,919	6.27	306,716	1.87	1,440,635
Others	790,114	4.33	1,469,726	8.83	2,259,840
Total	18,107,882	100.00	16,488,639	100.00	34,596,521

1879.

United States	$2,029,675	11.78	$1,165,070	7.06	$3,194,745
England	3,612,107	20.96	5,073,813	30.73	8,685,920
France	3,641,011	21.13	2,760,496	16.72	6,401,507
Brazil	3,617,960	20.99	2,080,753	12.61	5,698,713
Spain	78,878	0.46	1,153,671	6.99	1,232,549
Germany	45,362	0.26	963,688	5.84	1,009,050
Italy	435,922	2.59	1,132,140	6.86	1,568,062
Argentine Republic	505,480	2.93	362,933	2.20	868,413
Belgium	1,485,084	8.61	266,940	1.62	1,752,024
Cuba	1,086,265	6.30	268,100	1.62	1,354,365
Others	694,155	3.99	1,283,734	7.75	1,977,889
Total	17,231,899	100.00	16,511,338	100.00	33,743,237

1880.

United States	$2,947,356	14.41	$1,315,369	6.53	$4,262,725
England	4,416,208	21.60	6,018,731	29.85	10,434,939
France	3,592,638	17.58	3,489,866	17.30	7,082,504
Brazil	4,080,149	19.96	2,516,221	12.47	6,596,370
Spain	108,242	0.52	1,618,183	8.07	1,726,425
Germany	81,572	0.39	1,142,096	5.67	1,223,668
Italy	322,989	1.57	1,577,003	7.82	1,899,992
Argentine Republic	961,235	4.70	546,107	2.71	1,507,342
Belgium	2,191,249	10.72	542,479	2.69	2,733,728
Cuba	930,967	4.55	216,244	1.07	1,147,211
Others	814,875	4.00	1,182,224	5.82	1,997,099
Total	20,447,480	100.00	20,164,523	100.00	40,612,003

1881.

United States	$4,003,630	19.12	$1,314,474	7.09	$5,318,104
England	3,304,316	15.78	5,570,467	30.04	8,874,783
France	4,213,106	20.12	3,009,270	16.23	7,222,376
Brazil	3,643,580	17.40	2,270,703	12.25	5,914,233
Spain	275,328	1.32	1,961,148	10.58	2,236,476
Germany	72,284	0.34	1,222,721	6.59	1,295,005
Italy	603,608	2.89	1,068,527	5.76	1,672,135
Argentine Republic	1,076,921	5.15	480,351	2.58	1,557,272
Belgium	1,941,756	9.28	469,736	2.54	2,411,492
Cuba	713,565	3.41	161,275	0.87	874,840
Others	1,093,548	5.19	1,020,956	5.47	2,114,504
Total	20,941,592	100.00	18,549,628	100.00	39,491,220

Exports and imports of Uruguay from 1878 *to* 1885, *inclusive*—Continued.

1882.

Countries.	Exports.	Per cent.	Imports.	Per cent.	Total.
United States	$2,429,670	10.64	$1,487,283	7.90	$3,916,953
England	5,616,666	24.59	4,611,656	24.57	10,228,322
France	3,748,134	16.41	2,719,015	14.46	6,467,149
Brazil	2,981,246	13.01	2,282,352	12.14	5,263,598
Spain	163,796	0.72	2,071,741	11.01	2,235,537
Germany	350,495	1.54	1,454,137	7.72	1,804,632
Italy	365,004	1.60	1,287,346	6.84	1,652,350
Argentine Republic	1,019,143	4.47	672,774	3.57	1,691,917
Belgium	2,964,640	12.97	387,938	2.06	3,352,578
Cuba	1,137,696	4.98	142,841	0.76	1,280,537
Others	2,063,059	9.07	1,697,471	8.97	3,760,530
Total	22,839,549	100.00	18,814,554	100.00	41,654,103

1883.

United States	$2,264,150	8.69	$1,214,945	5.77	$3,474,095
England	5,001,323	19.14	5,709,222	27.13	10,710,545
France	4,379,478	16.77	3,614,150	17.17	7,993,628
Brazil	3,470,288	13.29	2,291,145	10.88	5,761,433
Spain	238,592	0.91	2,166,974	10.30	2,405,566
Germany	713,343	2.73	2,101,311	9.98	2,814,654
Italy	329,152	1.26	1,359,874	6.45	1,689,026
Argentine Republic	2,128,672	8.17	770,532	3.66	2,899,204
Belgium	5,042,404	19.31	616,827	2.94	5,659,231
Cuba	1,113,959	4.26	231,730	1.11	1,345,689
Others	1,428,105	5.47	960,946	4.61	2,389,051
Total	26,109,466	100.00	21,037,656	100.00	47,147,122

1884.

United States	$1,847,988	7.21	$1,628,293	6.41	$3,476,281
England	5,393,718	21.04	7,042,769	27.71	12,436,487
France	3,797,424	14.82	4,687,150	18.44	8,484,574
Brazil	4,018,726	15.68	2,515,684	9.89	6,534,410
Spain	475,002	1.85	2,351,185	9.25	2,826,187
Germany	863,517	3.37	2,430,841	9.56	3,294,358
Italy	363,396	1.42	1,559,316	6.14	1,922,712
Argentine Republic	1,924,520	7.51	657,971	2.58	2,582,491
Belgium	3,963,165	15.47	853,269	3.36	4,816,434
Cuba	992,158	3.83	165,276	0.65	1,157,434
Others	1,991,405	7.80	1,522,484	6.01	3,513,889
Total	25,631,019	100.00	25,414,238	100.00	51,045,257

1885.

United States	$4,524,436	17.31	$2,117,095	8.09	$6,641,531
England	5,057,424	19.35	7,641,700	29.21	12,699,124
France	3,602,724	13.78	4,347,379	16.62	7,950,103
Brazil	3,415,795	13.07	2,286,233	8.74	5,702,028
Spain	522,089	2.00	2,422,572	9.26	2,944,611
Germany	378,187	1.45	2,358,114	9.01	2,736,301
Italy	630,494	2.41	1,659,843	6.34	2,290,337
Argentine Republic	1,491,370	5.70	758,948	2.90	2,250,318
Belgium	3,896,499	14.90	850,662	3.25	4,747,161
Cuba	288,285	1.10	206,821	0.79	495,106
Others	2,334,692	8.93	1,515,806	5.79	3,850,498
Total	26,141,945	100.00	26,165,173	100.00	52,307,118

Grand total from 1878 *to* 1885, *inclusive.*

Countries.	Exports.	Per cent.	Imports.	Per cent.	Total.	Per cent.
United States	$21,180,832	11.94	$11,259,277	6.90	$32,440,109	9.53
England	36,955,389	20.83	46,725,184	28.64	83,680,573	24.57
France	30,232,811	17.04	37,342,652	16.76	57,575,463	16.90
Brazil	29,621,888	16.69	18,267,170	11.20	47,889,058	14.06
Spain	1,901,319	1.07	15,161,773	9.29	17,063,092	5.01
Germany	2,581,711	1.45	12,510,318	7.67	15,092,029	4.43
Italy	2,347,175	1.89	10,541,922	6.46	13,889,097	4.08
Argentine Republic	9,700,061	5.47	4,604,267	2.82	14,304,328	4.20
Belgium	23,322,879	13.14	4,380,836	2.69	27,703,715	8.13
Cuba	7,396,814	4.17	1,699,003	1.04	9,095,817	2.67
Others	11,209,953	6.31	10,653,347	6.53	21,863,300	6.42
Total	177,450,832	100.00	163,145,749	100.00	340,596,581	100.00

INTERESTS OF SALTILLO, MEXICO.

REPORT OF CONSUL WOESSNER.

The growth of these towns within late years has been strikingly remarkable, considering the absence of outside capital to assist in their development. The resources of the State in its revenues augment very much, and, as a matter of course, its fiscal wants also, and they grow apace with private enterprise.

A great deal of cotton is raised in this State in the Laguna district, the best cotton-growing section in the country. It is shipped to and consumed in other portions of the Republic. Good wines and brandies from the same section; considerable wheat, barley, beans, and corn for home consumption and to supply other States. Stock raising in horses, mules, cattle, goats, and sheep, the value of which is upwards of a million of money yearly. Two trunk railroads have created quite a revolution in economic matters. Very many mines of silver at Sierra Mojado; gold at Santa Rosa; coal at Sabrinas; copper, lead, silver, and gold at Mazapil; all these mines producing ores which in large quantities are shipped abroad, principally to England, because in England there is no duty. Many cotton factories, grist-mills, saw-mills, forests of rich timber, and quarries of sandstone and gypsum make this city a very inviting field for capitalists.

The population of the city and surrounding villages and haciendas is about 50,000 souls, and the climate salubrious and dry, where wheat and grain generally can be kept many years free of vermin, the thermometer ranging in summer on an average of 77° Fahrenheit.

The imports for consumption in dry goods, hardware, machinery, groceries, and also cotton in staple, are large, and the exports from this city for the year 1885 show the following items:

	Pounds.
Goat-skins	254,842
Ixtle	5,451,394
Horse-hair	86,760
Ore	58,033

besides a large number of horses and mules.

At present Saltillo is the terminus of one of the trunk railroads, the Mexican National coming from Corpus Christi, Tex.; and although skirting but a small portion of the eastern edge of this State, it has nevertheless been the cause of doubling the quantity of exports within the last three years.

The other trunk line, the Mexican International, coming down from Eagle Pass, on the Rio Grande, and distant only some 30 or 40 leagues from here, has already on its way crossed several ranges of the Sierras, plains, and rivers where many important settlements are located; great mineral districts, stock-ranges, and farms, intersected by many rivers, such as the Rio Grande, Sabrinas, Alamo, Nadadores; and one branch located to Saltillo and the other to the Pacific; it will also put us in direct communication with the marvelous district of the Laguna, an extensive region of the finest land in the Republic of Mexico, with plenty of water, the richest soil, and dotted with many flourishing haciendas and several growing towns, watered by the river Nazas, and producing cotton in staple, wines and brandies, wheat, beans, corn, and cattle, with factories of shirtings and drillings. All the produce thereof used to find its way out with excessive cost for transportation and loss of time over bad roads, causing a great deal of waste without individual profit and of no general benefit, all of which will henceforward have to come to Saltillo as the nearest and most convenient point for transshipment. This same road passes through the coal regions, working some of the mines, and will bring coal and coke for the uses of these towns and factories, also the ores of silver, gold, and lead mines.

All this bustle and teeming activity are carried on without any banking institutions, and with but few money-lenders, who put out money at interest ranging from 1½ to 4 per cent. per month. All representatives of values are now unavailable; the merchants, with collaterals in their safes, the crops of the farmers to be harvested, the mines with their ores and bullion, and real estate without mobilization.

JOHN WOESSNER,
Consul.

UNITED STATES CONSULATE,
Saltillo, Mexico, November 15, 1886.

THE LABOR LAWS OF MEXICO.

[Translated by Consul-General Warner P. Sutton.*]

GENERAL PROVISIONS.

ART. 1130. Any man is free to adopt the profession, industry, or labor that he prefers, if it be useful and honest, and to enjoy its products. This right cannot be hindered except by judicial sentence, when it affects the rights of third persons, or by a governmental resolution legally given when it offends the rights of society.

ART. 1131. The right to the products of labor and industry shall be governed by the laws of common property, except where otherwise specially provided in this code.

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* The federal laws of Mexico which are in force in the federal district and territories of Lower California and Tepic are found in various codes.

The civil code is that which was proclaimed March 31, 1884. Proceedings under this code are governed by the code of civil procedure of May 15, 1884.

The criminal law of Mexico is given in the penal code of December 7, 1871, and additions. Proceedings under this code are governed by the code of penal procedure of 26 October, 1880.

Besides the above are a commercial code, a postal code, a mining code, a railway law, and a law on foreigners.

The tariff law of Mexico is that issued January 24, 1885, my translation of which is published as No. 53½ of Consular Reports for June, 1885.

In Consular Reports No. 60, for January, 1886, I give a translation of the mining code issued November 22. 1884.

A translation of the law on foreigners was given in my No. 353, of September 4, 1886.

It is the purpose of this series of reports to give in each report the law of Mexico on a certain subject.

The civil code from which I make translation is the new one of March 31, 1884. It is not the one which is generally adopted in the various States. The code of Decem-

DOMESTIC SERVICE.

ART. 2434. Domestic service is that which is temporarily given to any individual by another who lives with him, and for which payment is made.

ART. 2435. A contract for perpetual domestic service is null and void.

ART. 2436. A contract for domestic service shall be governed by the will of the parties, except as follows:

ART. 2437. It shall be understood that the service has a fixed term, when the contract is for a certain object, as for a journey or other similar purpose.

ART. 2438. The time of service of a wet nurse is understood to continue during the whole period of nursing.

ART. 2439. In default of express agreement as to payment or wages, the custom of the locality shall be followed, taking into consideration the class of labor and the sex, age, and ability.

ART. 2440. If the agreement is not for a certain and determined period of service, the servant is obliged to do all compatible with his (her) health, state, strength ability, and condition.

ART. 2441. A servant, not engaged for a fixed period, may leave or be discharged at the pleasure of either party.

ART. 2442. In such cases the one who desires to terminate the service must give eight days notice.

ART. 2443. Notwithstanding this, the employer may immediately discharge, giving the eight days' extra pay.

ART. 2444. When a servant is discharged at a place distant more than 20 leagues from his home, the employer must give him one month's pay, unless the service contracted for terminates here, or that in the agreement it has been otherwise provided.

ART. 2445. A servant contracted for a certain time cannot leave the service without just cause before the expiration of the time agreed.

ART. 2446. These shall be called just causes:

I. The necessity of complying with legal obligations, or those entered into before the contract;

II. Manifest peril of any considerable danger or damage;

III. Failure on the part of the employer in his obligations toward the servant;

IV. Sickness of the servant rendering it impossible for him to perform his labor;

V. A change of domicile on the part of the employer to a place not convenient to the servant.

ART. 2447. A servant who leaves service with just cause can collect all the wages earned.

ART. 2448. The servant that leaves service without just cause, before the time agreed, loses the right to collect the wages earned, and may also be compelled to pay the losses and damages caused by his leaving.

ART. 2449. The employer cannot, without just cause, discharge any servant contracted for a certain time before this expires.

ART. 2450. These are just causes for dismissing a servant:

I. His incapacity for the work agreed upon;

II. For vice, sickness, or bad behavior;

III. Insolvency of the employer.

ART. 2451. If the employer dismisses the servant without just cause, before the termination of the time agreed, he is obliged to pay the wages for the full period.

ART. 2452. The servant is obligated:

I. To treat his employer with respect and to obey him in all things not unlawful or contrary to the conditions of the contract;

II. To perform his duty with fidelity and all diligence consistent with his strength.

III. To guard the property of the employer, and avoid, if possible, any damage to which it may be exposed;

IV. To be responsible for the damages and losses which the employer may suffer by his fault.

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ber 8, 1870, was adopted, with slight modifications, by all the States except Vera Cruz and Tlaxcala. I am not aware that any State has as yet adopted this new code in place of the old one. The differences between the two codes are, however, comparatively few, and, more or less, are in the same line and correspond with the modifications made by each State on adopting the code of 1870. As this new code (1884) is, by the provisions of the new law on foreigners previously mentioned, to govern in all matters throughout the country in which foreigners may be a party, it is the one from which I make translations.

WARNER P. SUTTON,
Consul-General.

ART. 2453. The employer is obligated:

I. To pay the servant his wages with rigorous exactitude, and not to put upon him work which will ruin his health, or expose his life, or which is not comprehended in the agreement;

II. To advise him of his faults, and, if he is a minor, to correct him as a tutor would;

III. To make good the losses and damages which may occur by his (the employer's) cause or fault;

IV. To succor him or have him attended, charging the same against his wages, in case he becomes sick and cannot attend himself, and has no family or other recourse.

ART. 2454. The contract for domestic service is dissolved by the death of either party; and neither the servant nor his heirs have right to collect wages beyond the day of death.

ART. 2455. The employer may deduct from the wages of the servant the damages and losses which he has caused, subject to the right of the servant, in case of injustice.

ART. 2456. If the employer does not make the deduction at the time of payment, he shall have no action against the servant.

ART. 2457. Besides what has been provided in the previous articles, there shall be observed, as regards servants, what is provided by the police regulations.

DAY LABOR.

ART. 2458. Day labor is that which is given by any individual to another, day by day, in consideration of a certain sum, which is called wage.

ART. 2459. The laborer is obligated to do the work for which he was employed according to the orders and direction of the employer; if he does not do this, he can be dismissed before the end of the day, paying him for the time already passed.

ART. 2460. The employer is obligated to pay the wages agreed at the end of the week or daily, according to the contract.

ART. 2461. In default of express agreement the custom of the locality shall be followed.

ART. 2462. The laborer employed by the day or for the days necessary to complete the work cannot quit work, nor can the employer dismiss him, before the expiration of the day or days, without just cause.

ART. 2463. If the laborer or the employer fail to comply with that provided in the previous article, the first shall lose the wages earned, and the latter be obliged to pay them in full, as if the work had been completed.

ART. 2464. Differences which may arise between the interested parties as to the justice of the case, of which article 2462 treats, shall be decided in verbal judgment.

ART. 2465. If the work, being for a certain number of days, or until the completion of the job, be interrupted by some fortuitous circumstance, or superior force, the laborer shall have the right to collect pay for the time which he has worked.

ART. 2466. If the work ends before the day, and he has only worked half a day, he shall receive one-half of the wage; if he has worked more than half a day, he shall be paid for a full day.

ART. 2467. The laborer who has been engaged, without a fixed time, or a definite amount of work to be finished, may leave, or be discharged, at the will of either party, without right of indemnification.

ART. 2468. The workman is responsible for the value of the instruments, or any other object which has been confided to him, and that he may have lost or spoiled, unless he can prove that it occurred without fault on his part.

WORK BY THE JOB.

ART. 2469. Contracts for work by the job may be made—

I. The contractor doing the work for a fixed price, and furnishing the materials.

II. The contractor giving only his labor or skill for fixed compensation.

ART. 2470. In case of doubt, it will be presumed that the one in charge of the work does it for a fixed sum, or for a salary, if the work pertains to real estate (cosa inmueble).

ART. 2471. In case the contractor makes a fixed agreement for work on real-estate property amounting, to more than $100, the contract shall be made in writing, giving a detailed description, and, when necessary, a plan or design of the work.

ART. 2472. If there be no accompanying plan or design, all discussion that may arise as to the execution of the work shall be decided, in default of other proofs, in favor of the proprietor.

ART. 2473. The contractor of a work done under a fixed contract is not obliged to present accounts to the proprietor; he that does it for a fixed personal compensation must present proofs of all sums that he has expended.

ART. 2474. The expert that makes a plan or estimate of a work, and then executes it, cannot charge for the plan or estimate, in addition to his fixed personal compensa-

tion; but if the owner does not execute the work, the expert may charge for the plan, unless it was otherwise agreed.

ART. 2475. When several experts have been invited to submit plans with the intent to choose from among these that which seems best, and the experts have known the circumstance, none of them can charge a fee for the plan, except by express agreement.

ART. 2476. In the case of the previous article the author of the plan accepted may charge therefor when the work is executed conformably thereto by another expert.

ART. 2477. The author of the plan which has not been accepted may also charge therefor, if the work is executed conformably thereto by another expert, even when minor modifications have been made therein.

ART. 2478. When no price has been fixed on taking charge of a work, and the parties disagree afterwards, the price designated by the tariff shall be taken, and if none be given therein, that which may be fixed by experts.

ART. 2479. Payment and receipt once being made, no reclamation thereof can be admitted, unless at the time of such payment or receipt this right was expressly reserved.

ART. 2480. If the contractor is obliged to furnish the materials, all the risk of the work is for his account until delivery; unless there be delay on the part of the owner of the work in receiving it, or express agreement to the contrary.

ART. 2481. If the contractor is only obliged to furnish his skill of labor, all the risk is for account of the owner, unless there be fault, unskillfulness, or delay on the part of the first.

ART. 2482. It is presumed that a loss is caused by the fault of the contractor, when it occurs while the thing is in his power, and that which is destroyed is his own work.

ART. 2483. Any loss caused by reason of the bad quality of the material is also for account of the contractor, if he does not opportunely notify the owner of the risk to which this causes the work to be exposed.

ART. 2484. In case the contractor is responsible, conformably to the three previous articles, he has no right to demand any indemnification, unless, having seen the loss which this material would cause, he has duly notified the owner.

ART. 2485. The architect or contractor of an edifice, whether he has or has not furnished the material, shall be responsible for ten years from the day of delivery if it shall be ruined because of fault in the construction or of the foundation, unless he shall have notified the owner of the faults in the materials or foundation.

ART. 2486. The obligation imposed by the previous article does not comprehend the architect who sells a house already built, nor other artisans after the delivery of and payment for the work, unless otherwise agreed.

ART. 2487. He that has to do a work by pieces or by measure can require the owner to receive in parts and pay proportionately therefor.

ART. 2488. The part paid for shall be presumed as being approved and received by the owner; but this presumption shall not hold solely because the owner has made advances on the price of the work, unless it is understood that the payment is to apply to the part already delivered.

ART. 2489. The provisions of the two previous articles shall not be observed when the pieces to be made cannot be used separately.

ART. 2490. If no time be fixed for the completion of the work, there shall be conceded a reasonable time in the opinion of experts.

ART. 2491. The contractor who does not deliver the work completed in due time is responsible for the losses and damages.

ART. 2492. The contractor who has undertaken to complete a work for a stated sum has no right to afterwards demand an increase, even though the price of materials and labor have increased.

ART. 2493. The provision of the previous article shall also be observed when there has been any change or increase in the plan, unless this has been authorized in writing by the owner, with express designation of price.

ART. 2494. The provisions of the two previous articles do not embrace the contractor who only furnishes his skill or labor. Variations which may be made in the plan and the difference of the prices will, in this case, be solely for account of the owner.

ART. 2495. He who has agreed to perform a work for a fixed price must commence and finish as provided in the contract; and in case these dates are not fixed, in those which are deemed sufficient in the judgment of experts.

ART. 2496. The contractor who works under salary, or by the job, is not obliged to finish the work except as decided by the owner, provided the latter allows a sufficient time.

ART. 2497. One who is in charge of a work cannot have it done by another, unless by previous agreement or consent of the owner, in which case the work shall always be done under the responsibility of the original contractor.

ART. 2498. The owner of a work under contract, for a fixed price, may stop the work already commenced, provided he indemnifies the contractor for all his expenses and labor and the profits which he might have made by completing the work.

ART. 2499. The person who is paid by a salary shall only receive one month's extra pay, counting from the date of suspension of the work.

ART. 2500. When the contractor has been paid that which is due according to the two previous articles, the owner is free to continue the work, employing other persons, even when they follow the same plan or design.

ART. 2501. If the contractor dies before the termination of the work, the contract may be annulled; but the owner must idemnify his heirs for the labor and expenses already made.

ART. 2502. The same rule shall be followed if the contractor cannot complete the work for any cause beyond his control.

ART. 2503. In case the owner of the work dies, the contract shall not be annulled, and his heirs shall be responsible to the contractor for the completion of the work.

ART. 2504. Those who are employed by the contractor, or who furnish him material for the work, will have no action against the owner, except to the amount which may be due the contractor on the completion of the work.

ART. 2505. The contractor is responsible for the work done by the persons whom he may employ.

ART. 2506. If the work is not done according to the agreement, or if it was to be done to the entire satisfaction of the owner, there shall be observed what is provided in chapter II, title III, of this work.

ART. 2507. Except when otherwise agreed the price of the work shall be paid on delivery.

ART. 2508. The constructor of any article of movable property has the right to retain it so long as the price is not paid, and he enjoys the preference conceded by article 1947.

ART. 1947. The person who reclaims the price of movable articles found in the possession of the debtor shall have preference if he makes his claim within three months from the day of sale if it was sold for immediate payment, or if not, within three months from the time the account became due. The same preference shall be given for expenses in preserving or repairing the articles in the possession of either the debtor or creditor, if claimed within three months from the time of making them.

ART. 2509. The expert who builds, whether for a fixed price or for a salary, is responsible that the work does not violate the police laws, and must pay the fines incurred in case of such violation.

THE TRANSPORTATION OF PASSENGERS AND FREIGHT.

ART. 2510. The contract by which any person obliges himself to transport, under his immediate direction or that of his employés by land, or by water, a person, animals, merchandise, or any other article whatever, will be governed by the dispositions of the commercial code, and in default thereof by the provisions of this code, if the carriers have formed a regular and permanent establishment.

ART. 2511. In any other case, the general rules of contracts and the following provisions shall be observed.

ART. 2512. The carriers will respond for the loss caused to persons by defect of the conductors, carriages, machines, or horses employed; and this defect shall be presumed, if the contractor does not prove that the evil occurred by superior force, or some fortuitous circumstance which could not be anticipated.

ART. 2513. They shall also be responsible for the losses and the damages of the things which they receive, unless they shall prove that the loss or the damage occurred by a fortuitous circumstance, from superior force, or the fault of the articles themselves.

ART. 2514. They shall also be responsible for the omissions and errors had in the transport of the articles, whether it be that they do not carry them on the trip (voyage) stipulated, or that they send them to a place different from the one agreed.

ART. 2515. They shall also be responsible for the losses caused by delay in the journey, whether at the commencement or during its course, or for change of route, unless they prove that a fortuitous circumstance or superior force has obliged them to do it.

ART. 2516. The carriers are not responsible for articles not delivered to them, but to the coachmen, sailors, oresmen, or employés who are not authorized to receive for account of the company.

ART. 2517. In the case of the previous article only the person who receives the thing is responsible therefor.

ART. 2518. The responsibility of all infractions of the laws, or the fiscal or police regulations that are committed during the journey is upon the conductor, and not upon the passenger, nor the owners of the things carried, unless the fault has been committed by these latter.

ART. 2519. The contractor will not be responsible for the faults treated of in the preceding article so far as regards the fines, except when he shall be in fault; but he shall always be responsible to indemnify for the losses and damages according to the provisions of the penal code.

ART. 2520. The passenger has no right to demand a greater or less rate of speed on the journey, or any alteration in the route or in the delays and stations, when these are named by the proper regulation (time card), or by the contract.

ART. 2521. It is the duty of the contractor or conductor to remedy all the accidents of the road, and in so doing endeavor to avoid, so far as he possibly can, imposing any hardship upon the passengers.

ART. 2522. Common carriers, whether by land or by water, must have a register, in which to put down things received for transportation.

ART. 2523. Stage lines and public carriers are responsible, as stated in article 2519, although they themselves are not the conductors, and they also retain the right to proceed against the conductors, in case that the latter are culpable for the damage.

ART. 2524. Actions which arise from transportation, whether for or against the carriers, shall not (hold) be good for more than six months after the conclusion of the journey.

ART. 2525. If the article carried was of a dangerous character, of bad quality, or not properly packed or covered, and the loss occurs from any of these circumstances, the responsibility shall be upon the carriers if these facts were known to them; if otherwise, the responsibility will be upon him who contracted with the carrier for their transport, not only for the loss which may be caused to the article itself, but also to the damage which may be done to the medium of transport, to other persons and objects.

ART. 2526. The passenger is responsible for the loss he may cause, whether by his own fault or by non-observance of the rules of the carrier.

ART. 2527. The person who rents out animals or any other medium of transport must declare their defects, and is responsible for the losses and injuries which may result from his failure to make such declaration.

ART. 2528. If the animals die or become sick, or in general become useless as the medium of transport, the loss shall be for account of the owner, unless it is shown that the loss occurred by the fault of the other party.

ART. 2529. The carrier has the right to receive the price and the expenses caused on the journey in the terms fixed in the contract.

ART. 2530. In default of express agreement the custom of the place shall govern, not only as to the price and expenses, but as to the time of payment.

ART. 2531. The carrier shall enjoy the privilege conceded by Art. 1952.

ART. 1952. The account for freight is preferred, and may be deducted from the price of the goods carried if in the hands of the creditor.

APPRENTICESHIP.

ART. 2532. The contract of apprenticeship entered into between persons of legal age or in which a minor, legally represented, is interested, must be in writing, before two witnesses. If either one of the interested parties does not know how to write, it shall be done for him, and in his presence, by another person besides the witnesses.

ART. 2533. This contract will be null if it does not fix a time during which the apprenticeship shall continue.

ART. 2534. In the contract must be stated the period or the circumstances under which it is agreed that the apprentice shall begin to receive compensation. He, in the mean time, will be considered as being paid by the instruction he receives.

ART. 2535. The master who without just cause dismisses an apprentice before the expiration of the time stipulated must indemnify him, if he be now receiving compensation, by the amount which would be due him on the completion of the contract. If the apprentice is not yet receiving compensation he shall be indemnified as decided by the judge.

ART. 2536. The causes mentioned for servants in Art. 2450 will be sufficient to justify the master in dismissing an apprentice.

ART. 2537. If the apprentice abandons the school or shop without just cause before the time agreed, the master may demand of him, or of the person who contracted for him, indemnification for the losses which follow.

ART. 2538. The causes mentioned for servants in Art. 2446 will be sufficient to justify the apprentice in leaving.

ART. 2539. If the apprentice was a minor, not legally represented, the master will not have against him any other than criminal actions, he remaining also subject to the provisions of the penal code as to civil responsibility.

INNS, HOTELS, AND BOARDING-HOUSES.

ART. 2540. The contract for entertainment occurs when one person asks of another lodging and food, or only lodging, in consideration of an agreed sum.

ART. 2541. This contract may be made tacitly, if the landlord has a public house for this purpose.

ART. 2542. Entertainment under express agreement is governed by the conditions stipulated, and the tacit contract by the notice or regulation, which the proprietor of the establishment must always have in writing in a visible place.

ART. 2543. Inn-keepers, hotel-keepers, or boarding-house keepers, are obliged to conform to the governmental regulations, under the penalties imposed thereby.

ART. 2544. Inn-keepers, hotel-keepers, and boarding-house keepers are responsible, civilly, in the cases and under the conditions established in the penal code.

PROGRESS IN PERU.

REPORT OF CONSUL BRENT, OF CALLAO.

At this exceptional stage of affairs in Peru, when the effort is being made to reduce order out of chaos, and a sweeping reconstruction of the machinery of government is essayed, nothing in the shape of a complete, or even satisfactory, commercial report can be submitted. The new administration is certainly vigorously at work, but up to the present the more important of the propositions laid before Congress, and relating to commercial and financial matters, have not been finally disposed of by the legislative body. Plans of the highest significance are proposed. The port of Callao, now in the hands of a company formed abroad, and owning the monopoly for loading and discharging all vessels clearing and entering, is promised a relief from such a burden, which signifies a tax of nearly $1 per ton on shipping, and Congress is discussing the manner in which this relief may be accomplished. According to the existing laws of Peru, no exclusive privilege may be granted for a longer period than ten years. When the original concession of the company referred to expired, in 1884, the Government of General Iglesias conceded an extension of the same for fifty years longer, in return for a heavy money advance, and on this ground of illegality the concession will doubtless be set aside. This expected change and the hoped-for reduction of the customs tariff would instantly infuse new life into commercial activity and transactions, exceptionally high prices now ruling would fall, the buyers from the interior could invest their capital with a fair expectation of profit, and Callao and Lima would be placed on the road to their former importance as trade centers.

There are also other projects before Congress intimately related with the national interests. European capital is offered to build a railway from Lima to the port of Pisco, 100 miles south of us, and from thence to construct a narrow-gauge line to the city of Ayacucho and the quicksilver mine of Santa Barbara, near Huancavelica, believed to be one of the most extensive and valuable deposits of that mineral as yet discovered. No pecuniary aid is solicited from the Government. The company asks for the privilege of working the mine for a long term of years, giving to the state a fair percentage of the yearly profits. The mine at present is abandoned, since to put it in working order would of itself occasion a very heavy expenditure. The district lying between Lima and Pisco is agriculturally one of the richest in the Republic, and the benefits to be derived by the capital from a new and rapid means of communication and transportation would be very great.

The lessees of the Arequipa system of railways, reaching from Mollendo, on the coast, to Puno, on the Lake Titicaca, propose extending them northwardly to the city of Cuzco, and in the south along the border of the lake until the Bolivian frontier is reached, and easy commu-

nication opened with the capital city of that Republic, La Paz. This project has been approved by the Government, and is before Congress for consideration. When carried into execution the principal volume of Bolivian trade to the Pacific must of necessity pass over this line; and apart from the commercial advantages offered, the Peruvian statesmen consider this new bond projected between their country and Bolivia as of the very highest possible importance. Neither in this instance is any demand made on the treasury for assistance; the contractors, who are citizens of the United States, require the privilege of working the railways for a period of years, paying the Government a fixed progressive sum per annum.

The Department has been informed regarding the enterprise entered upon by Mr. Michael P. Grace, of New York, with a syndicate of capitalists formed at that city for the purpose of extending the Oroya Railway from its present inland terminus, 90 miles from Lima, to the silver-mining district of the Cerro de Pasco, where the famous deposits of ore which have been inundated for half a century are to be drained and scientifically worked. This undertaking is regarded with especial interest. The heavy fall in the price of sugar in European markets, and the gradual decline of all industries in Peru, owing to the financial disasters attending seven years of foreign and domestic war, have brought down the exportations from this country to an insignificant figure, which, when silver can be cheaply mined in the interior and carried to the coast at reasonable rates of transportation, will, it is hoped, soon decidedly increase. Already a commission of mining experts, sent out from the United States, is engaged in a thorough examination of the Cerro de Pasco mines and the quality of the silver-bearing ore they hold, and when the final report is made, which, judging by all antecedents, should be eminently satisfactory, the work on the prolongation of the railway is to be vigorously entered upon, and the heavy machinery for the development of the mines, some of which is now here, will be sent up to the scene of action. All of these enterprises not only will bring money into the country, but also give occasion for profitable employment, thereby diverting the minds of the people from sedition and disturbances, to which, when idleness obtains, they are generally inclined. In my last report I pointed out the benefits to be derived by American manufacturers from the prosecution of these undertakings. Rolling stock for the railways and plant of every description for the mining operations will be in immediate demand, and from the superior quality of these articles and the interest of the contractors, the supply will be furnished from the United States. But the period is one of expectation rather than of tangible reality. Until the reforms projected by the Government are conclusively decided upon and in way of realization, and until the works of which mention is made be approved of and commenced, the present unsatisfactory state of financial and commercial affairs must endure, since the traders have but little money, and the expenditures of purchasers are limited to the barest necessities.

Other minor enterprises are also under consideration: The conclusion of the railway from Payta to Pirera, the construction of that connecting the port of Ilo with Moquegua, destroyed during the war, and a railroad from Tarma inland to the Chanchamayo Valley, from whence access is easy of accomplishment to the Peruvian affluents of the river Amazon. A society has been formed at Lima under Government protection and patronage to establish communication by means of high roads between the town of Cahuapanas, in the department of Loreto,

and the river Marañon, as the Amazon is termed whilst flowing through Peruvian territory. The distance to be traversed and the obstacles to be overcome are inconsiderable. Such communication would open to commerce one of the richest districts of Peru, where nature has been unusually prodigal in her gifts, and the steamers plying further down the mighty stream are ready to carry these riches to a profitable market, now unattainable from the absence of proper means of approach and exit. I have referred particularly to these projects, since they directly bear on the commercial progress and future of Peru, and also to show that a healthy spirit of advancement is noticeable in this country. The valley of the Chanchamayo, in the interior from Lima, and about six days' journey on muleback, is already attracting the notice of agriculturists. Several large cotton and coffee plantations are yielding excellent results, and if cheap transportation, to be furnished by the proposed railway, were available, the example of the pioneers would be soon followed. The diplomatic representatives to Peru of Spain and Italy recently made a visit of exploration to this district with the purpose of ascertaining the advantages it offers to colonists, and, it is stated, have made favorable reports to their respective Governments.

H. M. BRENT,
Consul

UNITED STATES CONSULATE,
Callao, August 30, 1886.

WHITE-LEAD MANUFACTURE IN FRANCE.

REPORT OF CONSUL MASON, OF MARSEILLES.

After careful inquiry, I am unable to find that there is at present any manufacture of white lead in the consular district of Marseilles. It appears that fifteen or twenty years ago an effort was made here in that direction, but it failed, for the reason that the atmosphere of the Mediterranean region does not favor the production of a pure white carbonate of lead, that manufactured here having a yellowish tinge which impairs its value. I am informed that the same is true of the white lead which is still manufactured to some extent at Genoa, in Italy, and which, although available for mixing with colors and some other uses, lacks the pure whiteness which is essential to a high quality.

While, therefore, circumstances preclude a detailed report from this consulate on the manufacture of white lead, the following facts concerning its origin and value as used and exported hither are respectfully submitted, in the hope that they may not be wholly without interest to the Department.

The white lead (*ceruse*) used in this district is manufactured almost exclusively at Lille, in the extreme north of France, or imported from Belgium. One firm in this city represents a manufactory at Mulheim, Germany; but it is on the Belgian frontier, in the neighborhood of Lille, that natural conditions have been found most favorable and the manufacture has attained its fullest development.

The lead used here is of all grades of impurity and consequent gradations of value.

Pure lead of the best quality costs from 55 to 65 francs per 100 kilos, or 4.8 to 5 cents per pound. From this standard it is adulterated to almost any prescribed degree of cheapness.

The materials most used for adulterations are sulphate of baryta and terra alba, preferably the latter by reason of its greater cheapness and difficulty of detection.

The duty on white lead imported into France is about 40 cents per 220 pounds, and the imports of last year from Belgium alone, as registered at the custom-house in Marseilles, were 92,400 pounds—12,000 pounds coming during the same period from Italy, and a like quantity from England.

The exports from this port during the past three years have been as follows: 1883, 565,400 pounds; 1884, 382,800 pounds; 1885, 248,600 pounds. Of the exports of last year, Algeria took 118,600 pounds; Egypt, 33,000 pounds; Greece, 26,400; Turkey, 13,200; Russia, 1,200; and the remainder went to Italy.

French and Belgian white lead is packed for this market, when dry, in wooden kegs containing 220 pounds; when ground in oil it is in tin cans which hold about 100 pounds. When exported these cans are inclosed in wooden kegs to protect the tin from injury in transit. It is not apparent that there is, or has been during recent years, at least, any white lead of American origin sold or used in this market. Whether any plausible opportunity is offered for its profitable introduction here can be clearly judged by any one, who, with a practical knowledge of the cost of American lead, properly packed and delivered on shipboard at New York, Boston, or Philadelphia, considers the following facts:

(1) That Marseilles is at present supplied from Northern France and Belgium with commercially pure white lead at from 4.8 to 5 cents per pound, the import duty being only about 18 cents per 100 pounds.

(2) That pig lead is produced in France or imported in large quantities, free of duty, from Spain, in both of which countries it is found mingled with varying but usually small proportions of silver.

(3) The present value of metallic lead in this market is 31 to 32 francs per 100 kilograms, or $54.29 per ton of 2,000 pounds.

Acetic acid has here an average value of 3½ cents per pound, and labor, in all ordinary forms of manufacture, may be estimated as costing, throughout France, one-half less than in the United States.

(4) Freights by steamer from New York to Marseilles vary from $5.50 to $6.50 per ton.

Although, as has been already shown, the export of white lead through the port of Marseilles, albeit steadily declining, is still considerable, the use of it in this district is relatively limited.

Wooden houses are almost unknown here. The various ochers which are produced so cheaply and abundantly in Southern France serve largely for out-door painting, and the substitution of iron for wooden vessels has greatly curtailed the consumption of white lead on shipboard.

For interior painting zinc painting is usually preferred.

FRANK H. MASON,
Consul.

UNITED STATES CONSULATE,
Marseilles, December 3, 1886.

WHITE-LEAD MANUFACTURE IN COLOGNE.

REPORT OF CONSUL WAMER.

White lead was already known to the Greeks, as we find it mentioned and described in the works of the philosopher Theophrastus, 372 years B. C. The ancients made use of the carbonate of lead of nature, formed by the slow action of atmospheric carbonic acid on lead, producing oxide of lead, or lead glance.

White lead was first artificially prepared in Holland by a certain person named Stratingh, the principle of which forms the basis to-day of the ever-increasing manufacture of this article of commerce. The Dutch process was for a long time kept a secret by the Dutch, who were the only manufacturers of the article. This process gives, even at the present day, the best white lead, although its whiteness is not so well retained as that made by other methods. The former, therefore, continues to be extensively followed chiefly in Holland, Belgium, France, and England, and, to some extent, in Germany. In fact, up to twenty-five years ago it was the only method in use in this country, when it was superseded by the so-called German method, and which is now almost exclusively employed in Germany. The German method consists in the artificial production of the acetic acid vapor and carbonic acid on the lead; that is, instead of burying earthen pots containing lead and acetic acid in beds of tan and stable litter, the lead is exposed in a roof form on horizontal bars fitted in chambers capable of holding about 30,000 kilograms of lead. At the bottom of the chamber is a pan with a wooden cover containing a number of small holes through which the vapor from the heated acetic acid passes into the chamber.

This process requires from six to eight weeks, when all the lead in the chamber is converted into carbonate of lead (white lead), which is finally washed and dried.

No trustworthy estimate can be given of the annual production of this place in early times, at least the first ten years of this century. The present annual production is about 30,000,000 kilograms, which, at 1,000 kilograms to the ton, would be 30,000 tons, about one-half of which is produced in this neighborhood.

MARKETING.

About two-thirds of the product of the Rhine district—that is, of the 17,000,000 kilograms above referred to—is exported, principally to England.

While lead is introduced into commerce in lumps, powder, and oil; the greater part is sold in lumps, and to manufacturers and consumers of colors, who have their own appliances for grinding it in oil. The difference in price between the lumps and powder is 1 mark per 100 kilograms, and between lumps and in oil 7 to 8 marks per 100 kilograms.

The product is not sold pure by the manufacturers, but all grades are mixed with heavy spar (*Schwerspath*), and in proportion from 10 to 90 per cent., according to price.

Bleiweiss (white lead) has always been the name of this commodity.

The supply of lead is obtained from the extensive lead mines of Germany, which are located chiefly in the provinces of Schliesen, Hanover,

Westphalia, and Rhenish Prussia. In extracting the lead a small percentage of silver which the ore contains is won as a secondary product.

Production of lead ore in Germany, 1876 to 1885, inclusive.

Years.	Quantity.	Estimated value.	Years.	Quantity.	Estimated value.
	Tons.			*Tons.*	
1876	120,603	$4,853,966	1881	164,770	$4,579,914
1877	147,011	5,398,013	1882	177,655	4,907,793
1878	152,843	5,013,030	1883	169,753	4,305,623
1879	149,055	4,246,572	1884	162,772	3,746,037
1880	159,725	4,550,982	1885	157,868	3,602,184

The following official statement represents the production, import, export, and consumption of lead, pig (*Blockblei*), in and from the customs territory of Germany during the years 1871 to 1885, inclusive:

Years.	Production.	Imports.	Exports.	Consumption.	Years.	Production.	Imports.	Exports.	Consumption.
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1871	53,618	4,836	19,921	38,533	1879	82,362	4,019	43,360	43,021
1872	59,550	6,231	21,666	38,115	1880	85,928	2,615	45,419	43,124
1873	60,427	6,627	28,256	38,798	1881	86,729	2,658	46,799	42,588
1874	65,056	4,304	29,330	40,030	1882	92,550	1,973	41,916	52,607
1875	65,465	4,703	26,355	43,813	1883	90,732	3,165	49,574	44,323
1876	71,477	3,229	32,779	41,927	1884	94,809	1,482	49,313	46,978
1877	76,056	3,005	32,468	47,193	1885	96,234	1,489	41,122	.....
1878	79,482	2,987	47,308	35,161					

It will be seen from the above figures that the amount of the imports compared with that of the exports for the 15 years is very small.

The average price in German marks* per ton in the principal markets ranged as follows:

Markets.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	October, 1886.
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Berlin, Saxonia, and Tarnowitz	307	334	309	298	269	231	234	266
Halberstadt, refined	.....	.....	.....	269	239	207	215	246
Cologne, Rhenish and Westphalian double refined	295	321	290	283	250	216	223	258
Hamburg, double refined	.....	.....	.....	.....	.....	239	251	290

There is an import duty in Germany neither on lead nor white lead.

The wages average from 2 marks to 2.50 marks per day, which, if reckoned at the rate of 23.8 cents to the mark, would be 47.6 to 57½ cents. As to cost of labor per unit of quantity, I have, after much exertion, failed to obtain any accurate results.

On referring to the German official statistics of the imports and exports into and from the customs territory of Germany, I fail to find that any white lead has ever been imported from the United States.

Owing to white lead and white zinc being put down together in the official statistics of the Government, it is not possible for me to give

* Mark equivalent to 23.8 cents.

separately the amount of import and export of these two articles. The export of these two articles was as follows:

Years.	Quantity.	Estimated value.	Years.	Quantity.	Estimated value.
	Tons.	*Marks.*		*Tons.*	*Marks.*
1880	10, 822	4, 978, 000	1883	15, 876	5, 897, 000
1881	12, 308	4, 923, 000	1884	17, 153	6, 175, 000
1882	13, 277	5, 045, 000	1885	16, 333	5, 880, 000

The statistics of latter years show that these two articles are exported chiefly to Great Britain, Sweden and Norway, Holland, Belgium, the United States, Denmark, Austria-Hungary, and France.

In 1885, 7,106 tons were exported to Great Britain, 1,433 tons to Sweden and Norway, 1,231 tons to Holland, 652 tons to Belgium, 445 tons to the United States, 432 tons to Denmark, 399 tons to Austria-Hungary, and 173 tons to France. What little of these two articles is imported into Germany, which amounted to only 2,985 tons in 1885, against 17,152 tons exported during the same period, comes chiefly from Austria-Hungary and Belgium.

The exports for the ten months ending October, 1886, amounted to 12,301 tons, against 13,475 tons for the same period in 1885. The imports for the same periods amounted to 2,316 tons in 1886, against 2,961 tons in 1885.

The present price in this market of white lead averages about 33 marks per 100 kilograms (say $7.85), which is very low in comparison with the prices of former years, which ranged from 45 marks to 50 marks (say $10.71 to $11.90). Taking the price of the raw material (lead) at 27 marks per 100 kilograms, the margin for labor, expenses, interest, and profit is not large.

Not knowing the price that American white lead could be delivered here for, it would be difficult for me to state whether or not there is an opening for the article. The official statistics do not indicate that any of the article has ever been imported into Germany from the United States.

Taking all the above facts into consideration, I am inclined to believe that it would be difficult and perhaps impossible to find a market in this country for American white lead.

WM. D. WAMER,
Consul.

UNITED STATES CONSULATE,
Cologne, December 10, 1886.

MANUFACTURE OF WHITE LEAD IN HOLLAND.

REPORT OF CONSUL ECKSTEIN.

When the manufacture of white lead was first introduced into Holland I have not succeeded in ascertaining, but am credibly informed it may safely be assumed to have been some centuries ago, and that it was known, as a paint, to the Greeks and Romans.

It is said to be beyond doubt that in the numerous factories which were in Holland a century or more ago work was carried on exclusively on the old Dutch method (earthen pots and stable litter).

In the course of time machinery has been introduced, and was even improved, for purifying and grinding the raw material, otherwise the old system always prevailed and is still very generally adopted.

There are said to be other methods which secure a whiter and purer product; but the important consideration of "superior covering power" of the article, which the old method insures, has never been and, probably, never will be equalled by any other.

A good while ago there were attempts made at a place called Wormerveer, and more recently at Utrecht, to introduce what is known as the "German method" (vapors of acetic and carbonic acids in a heated room), but with little success, as I am informed.

The "French" or "liquid method," "by precipitation," has never been tried in Holland.

In the now existing factories the old method is still employed. There is a new factory in course of erection and soon to begin operations in this city which may, perhaps, adopt some new system or process.

In the early part of this century and down to about the year 1835 there were a great many small factories in this country; long rows of them were situated along the road from Amsterdam to Haarlem and on the river Zaan. It is calculated that in the year 1875 and thereabouts the 10 then existing factories produced from 1,500,000 to 2,000,000 kilograms per annum.

It is impracticable to ascertain the exact figures representing the present annual production. I can only state that it is said to be very much less than from ten to fifteen years ago, as several factories have since stopped operations, in consequence of the formidable competition which has set in from Germany, especially Cologne houses. Besides this, zinc-white is now used much more extensively than in former years.

The product now finds hardly any other markets than those of the country itself, for home consumption, and those of its colonies. In former times considerable quantities of it were exported to Germany, but if any is now sent there it can be only very little.

A gentleman, formerly engaged in the manufacture of the article to a large extent, informs me that during the years 1868–'70 and thereabouts his firm sold at times over one-third of their whole product to Hamburg.

Manufacturers sell it in the dry state, and mostly in powder. Formerly large quantities of it, especially for the Hamburg market, were delivered in broken cakes, "crushed," or in little "loaves" of about one kilogram each, very often every one of them put up in blue paper; but it does not seem that there is now any demand for packing it in this manner. Small lots are sometimes turned out or delivered ground in oil for ship's use or for export to the West Indies, but most of the "grinding" is done by the merchants in dyeing-materials (dye-stuffs), many of whom have their own mills, employing steam, horse, or hand power.

By the manufacturers it is very generally sold pure, but lots for export are often ordered by traders to be turned out in an adulterated condition, containing cheaper substances, such as sulphate of baryta, chalk, &c., to an extent of 10, 20, and more per cent.

My informant, a former manufacturer of the article under consideration, states to me that about ten years ago his firm received an order from a Hamburg house for a large lot of the goods in question to contain 15 per cent. white lead and 85 per cent. sulphate of baryta for export to Rio Grande. The order was attended to, and followed by a similar one in the next year.

In Holland it always was and is now known by the name of *loodwit* (sometimes *witlood*).

The various names mentioned are or have been applied to the output of certain "factories" in different countries; as, for instance, "Krems White," which formerly enjoyed a high reputation, was made by a house in Krems, Austria, which, it is said, worked by the old Dutch method.

The raw material for the manufacture of white lead consists of the very best and purest qualities of "soft" refined lead, in pigs. It is imported principally from Germany, of the best marks, and, to a certain extent, from Belgium and England. In former times there was some of it brought here from Spain. English lead is considered to be superior to all other, but generally too high in price.

The imports of raw lead into Holland are shown by the following statement, viz:

Countries whence imported.	1886.*	1885.	1884.
	Kilograms.	*Kilograms.*	*Kilograms.*
Belgium	498,000	954,000	516,000
Great Britain	71,000	284,000	263,000
Germany	5,649,000	8,567,000	10,913,000
All others	48,000	8,000	9,000
Total	6,266,000	9,813,000	11,701,000

*Nine months.

At present the price of "soft lead" in this market is quoted to be from 7¾ to 8 florins per 50 kilograms, subject to the usual terms of sale, consisting of a small percentage for allowance or deduction from the gross weight of the article, &c., and brokerage amounts to ½ per cent.

The stock on hand here is now and often very low, and, as there are nowadays no speculative transactions taking place here, the price fluctuates but very little, which in former years was quite the reverse.

There is no customs duty on lead in Holland. It is a free article, like all metals imported in a raw or unmanufactured state.

In this country no lead is obtained by the reduction of silver ore which contains lead.

On wages of labor, product per laborer, and cost of labor per unit of quantity I should have been specially pleased to be able to give the fullest and most authentic information, such as I believe the Department looks for and expects, and to this end I made every possible effort, but, unfortunately, with only indifferent success.

All that I can say as to these important matters is based upon what I learned from my informant, already above referred to, and who for many years manufactured the article, and I regret it is not nearly as explicit as I wish it were. According to his statement, it appears quite impracticable to make answer to these questions in a really clear and comprehensive form, as the wages paid for labor in this industry differ very much, and are generally and comparatively very low in the country at such places as Schoonhoven, Gouda, and Kralingen, where existing "factories" are located, and usually very high in the cities, or at Rotterdam and Utrecht, where there are also three factories.

Wages of labor, he says, are an important factor in making white lead, as a very great part of the work must be done by hand.

As to the cost of labor per unit of quantity, he represents that, with thirty-five to forty hands and a twelve horse-power steam-engine, he produced from 350,000 to 400,000 kilograms of white lead per annum.

I feel quite convinced that more distinct and better information, such as would contain all the figures showing the wages paid to workmen and

laborers for any given time, the product per laborer, and the cost of labor per unit of quantity, could be given, but not without the assistance of some one now engaged in the industry of making white lead.

I applied for or requested such assistance of several of the principal manufacturers, but up to the moment of preparing this part of my report I have not received any answer from either of the parties, and, as I do not believe there is any prospect that they, or either of them, will furnish me the desired data, I shall not delay the transmission of this report, when completed; and if afterwards I should receive anything from them which may seem to me to be useful to the Department I shall communicate it.*

American white lead is not to be found in this market, and was never an article of import; so say those who are in the trade—well-informed and reliable firms.

The fact as to whether there really is or not any opening for American white lead in this market is not very easily determined; that depends upon certain circumstances. Up to the present no effort seems ever to have been made on the part of our manufacturers or exporters to introduce the article and create a demand for it; the matter has, it appears, never been practically tested.

As to stating conditions under which a trade in the American article might be established here, merchants and commission houses decline to do so, further than to say that if the American product is as good as the home-made and German, or better, and if it can be offered as cheap as, or cheaper than there, then there would seem to be no doubt that it could be successfully introduced into this market.

In short, the producer at home, in this instance, at any rate, must come to the consumer here if he wishes or intends to find a market here for his product.

The trade here will not look to or go to a far-off country for its supply of an article like white lead, which can so conveniently be purchased at home and in the near German market at satisfactory rates and terms, unless the manufacturer or exporter at a great distance offers to it some special inducement or advantage.

J. Ooster, esq., of No. 4 Vondelstraat, Amsterdam, is the gentleman who so kindly assisted me in the matter. He has been for nearly twenty years, from 1860 to about 1880, the managing partner of the firm of Ooster & Co., which during that time were the principal manufacturers of white lead, and who had their factory at Amsterdam.

At present Mr. Ooster holds a responsible position in the national Government, and he has given me permission to use his name in this report, and also to state that if any party or parties in the United States desire to correspond with him on the subject under consideration he shall be quite pleased to hear from them, and he would answer them any further questions to the best of his ability.

D. ECKSTEIN,
United States Consul.

UNITED STATES CONSULATE,
Amsterdam, ———, 1886.

*A firm of white-lead manufacturers at Schoonhoven, near Rotterdam, favored me with a few lines which came too late to give the information they contain its proper place in this report. The firm writes: "The wages of the workmen in white-lead factories in Holland are from 8 to 10 florins per week. The product per laborer is about 200 kilograms per day." The firm also requests me to let them have a copy of any report or publication which may at any time be issued by the American Government respecting the industries of white lead or dyestuffs in the United States.

WHITE LEAD MANUFACTURE IN SCOTLAND.

REPORT OF CONSUL UNDERWOOD, OF GLASGOW.

The manufacture of white lead was introduced into Glasgow in 1873 by Alexander, Ferguson & Co., who are still the largest manufacturers in the place. The Dutch process is chiefly employed, but the Joplin process is used to the extent of making 400 tons in the works of the Caledonian White Lead Company. The annual production of these two firms is about 1,500 tons, and finds a market in Scotland, Ireland, and the British Colonies, being sold both dry and in oil. The greater part is sold pure, but part is reduced with barytes to meet the demand for cheap paint.

The supply of lead comes from Scotland, England, Spain, and Germany, costing about £13 per ton of 2,240 pounds, or 2.82 cents per pound. No duty is imposed on imported lead.

Lead mined in Scotland contains very little silver; in one mine only is there silver enough to pay for extraction. In Spain the silver constitutes the chief value of the ore, and is extracted on the spot, the lead being a secondary matter. In Germany, also, lead is found mixed with silver; the metals are separated, and the lead which is used for making paint is specially refined for the purposes.

WAGES.

Messrs. Alexander, Ferguson & Co., who produce 1,100 tons yearly, employ eight men and twenty-five women, and pay them altogether wages of £1,000 a year. At this rate, the cost of labor for a ton is $4 and a fraction.

AMERICAN WHITE LEAD.

No American lead in any form is to be found in this market. It has never been imported so far as I can learn.

The market being free, there is an opening for American white lead if the quality compares favorably with the Scottish and German article, and if it can be sold on as favorable terms. The excellence of the article would have to be established by trial, and before any trial, the price would have to be at least as low as the prices of well-known brands. The price of white lead in this market at present is £16 for dry and £17 in oil per ton of 2,240 pounds; equal to 3.47 and 3.69 cents per pound, respectively. White lead made by the Joplin process is worth 25 shillings less per ton.

FRANCIS H. UNDERWOOD,
Consul.

UNITED STATES CONSULATE,
Glasgow, December 17, 1886.

FOREIGN TRADE OF AUSTRIA-HUNGARY, AND THE PETROLEUM QUESTION.

REPORT OF CONSUL-GENERAL JUSSEN.

The Austro-Hungarian statistical bureau has just published the report of the export and import trade of the country for the first six months of the year 1886.

The total receipts from the import duties during this period amount to 23,078,023 florins, or 2,416,013 florins, or 10.5 per cent., less than during the same period of 1885.

This decrease of revenue took place notwithstanding the fact that the raw materials and manufactures, upon which an import duty will probably be imposed during the present session of the Reichstag, were imported in greater quantities than usual in order to save as much as possible this threatened increase of duty.

The value of all imports for this period of the first six months of 1886 amounts to 276,300,000 florins, being 12,100,000 florins, or 4 per cent., less than during the same period in 1885.

The estimate of this value is, however, entirely arbitrary, being an assumed unit valuation, without much regard to the quality and real market value of the articles imported. This decrease of import is noted principally in cereals, rice, potatoes, pepper, sirups, bread, oxen, sheep, tallow, wood, meershaum, indigo, mineral oils, jute, soda, jute weavings, leathers, window-glass, cement, divers manufactures of iron, machines, and wagons.

There has, however, during the period aforesaid been quite an increase in the importation of cotton, flax, iron ore, dye-wood, mother-of-pearl, rubber, pig-iron, silk and cotton and jute yarns, and it is claimed that this increase in the importation of raw materials denotes a revival of the industries of the country.

The value of the exports during the period mentioned amounts to 359,700,000 florins, an increase of 23,900,000 florins, or 7 per cent., when compared with the exports of the first six months of 1885.

This increased export affects mainly the following articles: Wheat, corn, flour, hay, cattle, hogs, eggs, butter, wine, clover-seed, brown coal, cotton goods, linen goods, silk goods, woolen goods, felt shoes, clothing, shoes, gloves, furniture, glassware, cement, sheet-iron, arms, fine-metal ware, bronze-ware, and fancy goods and notions.

EXPORT AND IMPORT OF GOLD AND SILVER.

The following table shows the export and import of gold and gold coin and of silver and silver coin during the first six months of 1885 and 1886:

Description.	Imports.			Exports.		
	1885.	1886.	Decrease.	1885.	1886.	Decrease.
Gold and gold coin	3,833,730	1,921,100	1,912,630	1,981,500	627,800	1,353,700
Silver and silver coin.....	1,526,046	1,057,141	468,905	2,825,564	12,625	2,812,939

LOSS OF REVENUE ON PETROLEUM.

The Austrian press points with considerable indignation to the fact that for the last six months, when compared with the same period in 1885, the loss of revenue on petroleum import duties amounts to very nearly 1,000,000 florins in gold.

The story of the fraud on the revenue, which is carried on with perfect impunity by means of the importation of partially refined Russian mineral oil across the Hungarian border, under the denomination of crude petroleum, is repeated again and again, in the hope that at last the Hungarian legislators will see the justice of the demand of Austria to execute the existing tariff provision according to its spirit and intent, or to so amend the tariff that all mineral oils shall pay a duty in pro-

portion to the degree of refinement. Even the political complications in Bulgaria, which may in the near future become of the highest importance to Austria-Hungary, are called into the service of the advocates of this tariff reform.

Entire harmony on all questions of internal affairs is said to be imperatively necessary, so that the two states may present a united front against all dangers threatening from without. But even this argument seems to have failed of success, so determined is Hungary to keep the advantage it has gained.

The members of the Austrian and Hungarian tariff conference have just met in Vienna to settle this very petroleum question, and after a fruitless discussion, during which Hungary claimed more emphatically than ever the right to admit this doctored Russian oil (containing 85 per cent. of petroleum) as crude oil, the conference has adjourned and separated, leaving the whole question *in statu quo*. There seems, therefore, no immediate prospect that American petroleum will recover the lost ground. Possibly, if the danger increases still more in the East, harmony will prevail in the councils of Austria-Hungary, but it is quite as probable that the consideration of the subject in question will be postponed until the peace of Europe is again assured. A war with Russia would of course give American petroleum an absolute monopoly of this market, but the indications in that direction are less threatening to-day than they were a week ago.

EDMUND JUSSEN,
Consul-General.

UNITED STATES CONSULATE,
Vienna, October 11, 1886.

PETROLEUM IN AUSTRIA—DANGERS OF RUSSIAN COMPETITION.

REPORT OF CONSUL GILBERT.

In May I represented to the Department the great decline in the trade in petroleum between the United States and this port caused by the successful competition of the oil fields of the Black Sea. During the summer just passed the competition has entered upon a new phase, which I very much fear is a death-blow to American exportation of refined petroleum hither. There was some hope that a trade in the crude article might be built up, but the projected refining works here are, for the present at least, abandoned, owing to the death of the two leaders in that enterprise. The new phase of the Black Sea petroleum trade is the introduction of the system of transporting the oil in bulk—the refined to Trieste, the crude to Fiume. The first experiments were made between Batoum and Odessa, and one trial trip to London, the passage occupying but eighteen days. The vessel employed, the Swjet, was constructed in Sweden last year for the purpose. She is of the common English spar-deck type, 274 feet in length, 35 feet breadth of beam, and of an average depth of hold of 18 feet, and is fitted with 16 tanks, the aggregate capacity of which is 1,770 tons.

She has just made her first trip to this port. The disadvantage under which the tank steamer labors is the necessity of returning to Batoum in ballast, but this is much more than compensated by the sav-

ing in barrels, labor, leakage, storage, and weight, the tanks being on the whole less in weight than the barrels which the vessel could ship, occupying less space, and requiring no dunnage, being filled through pipes connected with the huge reservoirs on shore.

The saving in labor is enormous. In fact, it is estimated that the economy of this mode of transportation amounts to 25 per cent. The success of the Odessa experiment was so decided as to lead to the construction of receiving tanks on the quays of the petroleum dock in this port. As seen in the distance from this office they look like so many gasometers; are constructed of boiler-iron, upon solid stone foundations, with gauges, which indicate the quantity received or withdrawn. The cargo is quickly discharged from the vessel into the reservoir tanks on land by steam-pumps, affording here again an enormous advantage over the discharge of a cargo in barrels both in time and expense.

One of these enterprises is so far completed as to its arrangements as to afford a clear idea of what all are to be.

Adjoining the two large reservoirs already finished is a fire-proof structure affording track room for 12 cars, abundant room for barreling when required, and supplied with a perfect system of piping for conveying the oil from the reservoirs to the cars or barrels. The tanks now finished are two of Messrs. Ofenheim, Singer & Co., of Vienna, each of a capacity of 27,000 quintals; Lindheim & Co., of Vienna, two of 17,000 quintals each. In construction, one for Nobel Bros., Librach & Kantor, of Vienna, agents, 30,000 quintals.

Space is reserved for several more, and should the trade in time call for it a new dock adjoining the present one could be constructed at comparatively small expense.

Taking the distance from Batoum to Trieste to be about 2,000 miles by sea, which distance the Swjet made in eight days, including one day's detention at Constantinople, and considering the lower price of the Russian refined oil, the question for the American merchant to consider is the possibility of shipping his oil to Trieste in tank-vessels (which must return in ballast) at a price which can enable him to compete for the trade. I fear this is impossible; if so, the export of American refined oil hither under ordinary circumstances is practically at an end.

The adoption of the American system of marine transportation is supplemented by the introduction of American tank-cars for land traffic; the advantages of this are too well known to be mentioned here. About 100 of these cars, with a capacity of 100 barrels each, are now ready for service.

So far as the trade with the interior of Austria is concerned, these cars make no difference in a trade already lost, but the large Vienna firms have views and projects far more wide-spreading. They contemplate a formidable competition for the trade of Central Europe.

Restricted as Trieste is in her communications with the interior, the large firms above named hope (and it is said have made) such traffic rates and arrangements with the managers of the present systems of railways of Austria, Switzerland, and Bavaria as to enable them to compete with Hamburg, Bremen, and other northern ports, and to place Russian oil, by means of their tank-cars, in the Swiss, Bavarian, Bohemian, and to some extent even the Saxon markets, at prices low enough to drive out the American article. They are even speculating upon the possibility of crossing Northern Italy and supplying Genoa and Marseilles and other northern ports of the Mediterranean.

During the present year one shipment of Russian refined oil in barrels has been made from here into Bavaria. This test case is said to have demonstrated the feasibility of the scheme.

HENRY W. GILBERT,
Consul.

UNITED STATES CONSULATE,
Trieste, October 11, 1886.

LACE INDUSTRY OF NOTTINGHAM.

REPORT OF COMMERCIAL AGENT WILLIAMS.

The lace trade has always been the important industry of the place, and has in fact been a monopoly, being distinctively a Nottingham industry. I mean, of course, machine-made lace. Large fortunes have been made in this industry and it is very greatly to it that the increase in population of the town is due, a growth which is almost of American rapidity. The height of this prosperity was in 1881, '82, and '83, the manufacturers being literally flooded with orders at their own prices and being months behind with their work. This prosperity was naturally shared in by the operatives, and wages as high as £6 and £7 sterling per week to skillful workmen, were not uncommon. Trades unions were formed which in their strength and system have been rarely equaled anywhere, and even to-day, in spite of several years of great trade depression, they still retain the unswerving allegiance of the operatives.

The prosperity continued for a long time, but some four years since a new lace made its appearance on the Continent, where it was manufactured, called, from the pattern, the Edelweiss lace. It is an embroidered lace, and is in fact finer than the Nottingham article. This newcomer immediately found favor in female eyes, and as a consequence the Nottingham article was driven from its favored position and its place taken by its continental competitor.

As the Nottingham mills slackened, the Saxon and Swiss increased their forces and working hours until the prosperity, which had almost become settled in Nottingham, was transferred to the newcomers in the lace trade. Instead of immediately meeting the change of fashion and taking to the manufacturing of the new lace (the only changes which were necessary being the new machines necessary for the embroidering), the English firms, made confident by long monopoly, simply waited for a change in the fashion which would throw out the new favorite. This change has not yet taken place in the four years which have elapsed, and to-day, with all the natural advantages which the mill-owners possess, they are still behind their new competitors in this branch of their trade, there being in Nottingham only sixty looms capable of making the new lace, and two-thirds of this number belong to one firm, who introduced them some years since and have reaped a very large return for their enterprise, as they deserved to do. These machines not only embroider on the netting the ground-work of the Edelweiss lace, but also on serge and flannel, and this same firm are making embroidered dresses of these materials of artistic and pretty designs, good workmanship, and surprising cheapness.

With the depression in trade came the usual disagreements between employers and employed. The prosperity of former years had attracted

to the town and the trade many artisans who had been strangers to both, and the depression naturally threw many of them out of employment and left the rest at work at reduced hours, but at the old rate per hour, those out of work being in part supported by their unions, a tax being paid by the members at work, and a fund having been collected and accumulated during the times of prosperity. The amount at first allowed by the unions to members on strike was 15 shillings per week, and to those out of work 7 shillings. These allowances have since been reduced, and are now 12 and 5 shillings, respectively, the unions probably finding their funds decreasing in the long-continued depression.

In the mean time the Nottingham trade found that the continental manufacturers were not only outstripping them in what might be called the fancy branch of their trade, but were also competing with them in the standard branches, curtains, &c., and prices had to be lowered to meet the changed order of things. The workmen agreed some months since to a reduction in the scale of wages of 15 per cent., but even this, it was claimed by the employers, was entirely insufficient, and the latter demanded a further reduction of 33⅓ per cent., a demand the unions have promptly rejected.

Here the matter rests for the present, the men claiming that wages are as low now as they can live on, and the manufacturers claiming that they cannot make the goods, much less sell them, at prices same class of goods are now being sold for elsewhere, and they point to the many looms in Nottingham which are now idle, and to the rapid increase of the lace trade, not only on the Continent, but in places in England where a few years since the industry was unknown, and where now the influence of trade unions is not so strong, and finally to the constant taking down and shipment of looms out of the town. This shipment of looms is certainly going on, and unless some agreement is speedily come to, will largely increase in the near future.

G. STEDMAN WILLIAMS,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Nottingham, November 18, 1886.

IRON AND STEEL INDUSTRY OF GERMANY.

REPORT OF CONSUL WAMER.

Any one acquainted with the iron and steel industry of the world during the past few years will not deny the fact that it never before has been so bad. The recent improvement in this branch of industry in the Rhenish and Westphalian provinces has scarcely made any further progress. Although greater activity has continued to prevail in some branches of this trade, it has not so far led to any advance in prices, all new orders or contracts having been taken at the same unsatisfactory prices as heretofore. Consumers seem to consider a further decline uncertain, and are not holding back any longer in supplying their wants at present prices, whilst manufacturers, remembering how often they have been deceived in speculating on a better turn of affairs, have not felt warranted in refusing to contract for business. This more active demand

has tended to give a somewhat firmer tone to prices, and the less unfavorable accounts from the English, Scotch, and American markets have likewise strengthened the market. But, looking at the state of affairs generally, it cannot be denied that the iron trade is passing through a severe and critical period. As matters stand at present it is a desperate struggle for existence, and some companies and manufacturers, unable to cope any longer with the financial difficulties of the situation, may be forced to close their works altogether. The long-continued depression has brought prices down to an exceedingly low level, and, in order to convey some idea of the losses which have been sustained, I refer to the subjoined table, which shows the market value of the stock, in the past five years, of some of the leading iron and steel companies in this district:

Name.	1872.	1874.	1880.	1885.	August, 1886.
Aachen-Höngen	187	138	50	16	23
Arenberg	356	320	82	.....	130
Borussia	410	236	96	64	49
Bonifacius	166	96	49	65	.....
Bochum-Gusstahl	230	90	35	100	93
Commerner	155	95	47	30	13
Dornesmarckhütte	101½	49½	72	28	29
Dortmund Union	.....	.....	89	58	37
Eschweiler	96	62	61	42	39
Gelsenkirchen	143	137	122	113	107
Harkort	75	33	110	31	15
Hiberina	107	81	100	87½	94
Hœrder	144½	72½	95½	30½	18
Königs u. Laurahütte	229	134	126	97½	64
König Wilhelm	125	50	34	31	30
Louise Tiefban	96	68	59	35	32
Märkisch-Westfalisch	122	56½	88	63	78
Menden u. Schwerte	138	60½	80	21½	15
Phœnix	222	122½	84	74	53
Pluto	210	119	76	46	41
Rheinische Stahlwerke	.....	.....	.....	212	163
Tarnowitzer	278½	73	65	19	7

The following have been the average prices of iron in the leading markets of Germany during the years of 1878 to 1885, inclusive, per ton:

Markets.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
Berlin:	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.**
Best Scotch foundry	74.4	83.7	81.7	83.8	82.5	75.1	69.8
English No. 3	55.6	71.1	64.9	67.3	62.9	58.5	53.4
Breslau:							
Puddle	51.7	66.8	55.9	66.1	57.8	54.5	48.3
Foundry	56.8	72.9	62.3	69.5	63.6	60.3	56.5
Dortmund:							
Bessemer pig	64.2	78.7	69.3	70.1	60.6	53.1	45.8
Westfalisch puddle	53.2	68.7	57.4	65.0	57.6	50.4	44.2
Dusseldorf:							
Best German puddle	56.1	83.5	59.0	64.6	57.6	59.0	44.5
Best German foundry	62.6	87.1	73.3	75.0	72.9	65.7	58.4

* Mark equivalent to 23.8 cents.

The present price for selected puddling iron from the Sieg is 38 to 40 marks per ton, and from the Rhenish-Westphalian district 39 to 41 marks per ton; spiegel-iron, with 10 to 12 per cent. manganese, from 45 to 48 marks per ton.

The subjoined table shows the production, import, export, and consumption of pig-iron in the German customs territory, from the year 1865 to the year 1885, inclusive:

Years.	Production.	Imports.	Exports.	Consumption.	Years.	Production.	Imports.	Exports.	Consumption.
	Tons.	*Tons.*	*Tons.*	*Tons.*		*Tons.*	*Tons.*	*Tons.*	*Tons.*
1865	933, 437	179, 337	10, 418	1, 102, 356	1876	1, 801, 457	583, 858	306, 825	2, 078, 490
1866	996, 738	140, 469	20, 606	1, 116, 601	1877	1, 884, 107	541, 864	365, 625	2, 060, 346
1867	987, 163	116, 914	29, 621	1, 074, 456	1878	2, 108, 034	484, 679	418, 916	2, 173, 797
1868	1, 200, 188	132, 592	98, 179	1, 234, 601	1879	2, 190, 003	388, 657	433, 674	2, 144, 986
1869	1, 356, 965	189, 837	102, 362	1, 444, 440	1880	2, 675, 717	237, 916	287, 529	2, 626, 104
1870	1, 345, 520	229, 422	110, 563	1, 464, 379	1881	2, 862, 673	250, 246	312, 570	2, 800, 349
1871	1, 491, 478	440, 634	111, 838	1, 820, 274	1882	3, 326, 776	291, 058	246, 487	3, 371, 347
1872	1, 927, 062	662, 981	150, 857	2, 439, 186	1883	3, 417, 209	283, 545	319, 448	3, 381, 306
1873	2, 174, 058	744, 121	154, 368	2, 763, 811	1884	3, 550, 034	272, 210	273, 716	3, 548, 528
1874	1, 856, 311	550, 467	222, 501	2, 184, 277	1885	3, 652, 634	.....	.....	.....
1875	1, 981, 735	625, 645	339, 192	2, 268, 188					

The cause of the great stagnation in the iron and steel industry is no doubt to be laid mainly to the excess of the supply over the demand, and as long as this abnormal state of things continues a radical change for the better is hardly to be expected.

In the Rhenish and Westphalian provinces the overproduction has kept within fair bounds; for instance, in the first nine months of 1885 the decline in the production amounted to 2.07 per cent., whereas the total production of Germany showed a continued increase, amounting in the same period to 4.75 per cent. In the Sieg district the prospects are likewise discouraging.

ENGLAND AND GERMANY.

Formerly the iron industries of foreign countries had to look to the Sieg district for a supply of spiegel-iron, but the introduction of the so-called Thomas process has interfered much with the sale of the former. This description of iron (Thomas iron) is now used as a substitute to a considerable extent by manufacturers for selected puddling iron. The depression in England in the iron and steel trade has been and is still equally bad, but whilst the production of pig-iron in England has been on the decline the production in Germany has been constantly increasing. The explanation for this is not difficult to find. For a number of years England was the chief country for the production of pig-iron, but in latter years Germany has been making the strongest efforts not only to compete with England, but even to gain the foremost rank in this industry. These efforts have not been unsuccessful, but whether Germany will be able to keep up this keen competition for any length of time is questionable, especially as Germany is dependent largely on its export trade, which, however, has for some time past become more and more unsatisfactory and unremunerative. Many works in Germany are not fully occupied and are working at half time, but, as a rule, the manufacturers are averse to dismissing workmen, which measure is only resorted to after all possible means to retain them have been exhausted.

DEMAND AND SUPPLY.

As previously mentioned, the main cause of the depressed state of the iron and steel industry in Germany must be attributed to the relative position of demand and supply, the latter being much in excess of

the former. The supply has gone on augmenting from year to year, whilst the demand has fallen off more and more. This is easily accounted for, considering that the large number of railways in the world and other undertakings of more or less magnitude are finished. Not long ago, when new lines were constructed in the United States, especially in 1882 (11,596 miles were then projected), great activity prevailed in the iron and steel trade in Germany, but recently the inquiry for such purposes has almost ceased. However, attention is very closely directed to these countries where the means of locomotion are either deficient or wanting altogether, and on some recent occasions German manufacturers have been able to carry off some valuable contracts both in China and Japan. One of the chief inducements for Germany to adopt a colonial policy is the necessity to have a fresh outlet for her exports, and although this movement is not unpopular, yet it is very problematical whether much German capital will be invested in colonial projects, notwithstanding that the rate of interest at home becomes more and more reduced.

Conventions have recently been agreed to among wire manufacturers of Westphalia and the Rhine provinces, and also among the manufacturers of spiegel-iron in the Sieg district, the object being to fix prices and to limit the production. It is premature to say whether such conventions are likely to succeed in carrying out the objects which they have in view. Experience, however, has shown that conventions very rarely lead to much good, especially as many refuse to take part in them.

ASSOCIATIONS.

But of undoubted importance and value is the establishment of an association of German iron and steel manufacturers, whose aim and object are to protect and promote the interest of the iron and steel industry in general. The association has not been very long in existence, but it has already done much useful work, and the whole organization is a successful one.

One of the special objects of the association has been to assist in carrying out good laws in respect to insurance against accidents, so as to benefit not only the workmen in blast furnaces, in rolling-works, and in iron and steel factories, but also the workmen in other industries in Germany. The task has been a difficult and laborious one, and has required close and careful study. The association has further succeeded in effecting similar benefits for workmen in respect to sickness, and has framed model statutes for sick funds.

Much credit is also due to the association for having succeeded in getting railway rates reduced to a moderate scale, although the success in this instance is perhaps chiefly due to the fact that many members of the association are at the same time members of railway boards and of the provincial railway councils.

In order to promote the use of German iron in ship-building, and in other descriptions of building, the association has communicated direct with all establishments connected with such work, and has besides voted considerable sums to prepare and bring out sample-books of the various kinds of iron.

With regard to public tenders and commercial treaties the association takes credit that it has neglected nothing to protect and promote the interest of the German iron and steel industry. Finally, it has struggled with all the power at its command to crush out free trade, and

to introduce instead a proper system of protection, a policy which, in its opinion, is a blessing to Germany in general and to the iron and steel industries in particular.

WM. D. WAMER,
Consul.

UNITED STATES CONSULATE,
Cologne, November 13, 1886.

WAGES OF LABORERS AND MECHANICS IN GERMANY AND SAXONY.

*TRANSMITTED BY CONSUL MILLAR, OF LEIPSIC.**

THE STATISTICS OF WAGES.

None of the Socialistic party-cries, not even that of the "normal working-day," nor of "normal wages," will bear the test of sober investigation on the basis of actual facts. The endless variety of local and individual circumstances, needs, and wishes, which the reports of the German factory inspectors have lately shown to exist with respect to the industrial working-day, must wreck any attempt at an absolute leveling by means of a so-called "normal working-day." Every sensible person will at once deduce the law of individualization from the nature of the case.

Hitherto the sources of information about the wages of labor have been scantier than those about the hours of labor. The first occasion for the collection of statistics for the whole of Germany, though only for day wages, has been furnished by the law for the insurance of the working classes against sickness. This law enacts that the "customary local wages of the average day-laborer," which are to form the basis of calculation of the sick-allowance, shall be determined by the central authority in each administrative district after consulting the parish boards. The results of the statistics so obtained have been made accessible in a compilation made and published by the editor of the *Arbeiterversorgung*. This pamphlet gives the average daily wages of both adult and juvenile workers for each sex separately and down to the smaller parishes. It is consequently too voluminous to be reproduced here. But by selecting from each administrative district the subdistrict with the highest and the one with the lowest average we have endeavored to give a general view of the results so far as relates to provincial districts (*Regierungsbezirke*) or independent states (*Einzelstaaten*). In this way we have obtained the following table:

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*The following papers are translations of three articles which appeared in the *Leipziger Zeitung* of the 23d, 24th and 26th, of November, 1886. With respect to the German technical expressions which appear in the articles it may be observed that *Regierungsbezirk* or *Kreishauptmannschaft* denotes the administrative district for civil purposes of a province or state, and is here rendered by "administrative district." It may be approximately considered as equivalent to "county." *Amtshauptmannschaft* is a subdivision of the administrative district. It is rendered by "administrative subdistrict," and may be regarded as equivalent to "parish." *Amtsgerichtsbezirk* is the judicial district of the local civil court.—Note by Consul MILLAR.

Administrative district of the central authority.	Average daily wages for adult—	
	Males.	Females.
	Pfennigs.	*Pfennigs.*
Provincial district:		
Koenigsberg	100–170	50–100
Gumbinnen	80–120	40– 80
Danzig	100–180	75–125
Marienwerder	80–162	40–100
Potsdam	120–250	70–175
Frankfurt a. O.	100–175	60–100
Township Berlin	240	150
Provincial district:		
Stettin	120–200	70–100
Coeslin	95–160	50–110
Stralsund	150	90–100
Posen	75–120	50–100
Bromberg	120–150	80–100
Breslau	80–160	50–100
Liegnitz	90–160	45–100
Oppeln	80–120	50– 80
Magdeburg	140–200	75–140
Merseburg	100–210	70–140
Erfurt	120–160	80–100
Schleswig	150–270	100–180
Hannover	140–200	80–150
Hildesheim	120–180	80–125
Lueneberg	120–240	80–150
Stade	150–300	100–176
Osnabrueck	129–200	75–150
Aurich	125–230	75–140
Sigmaring	150–200	100–120
Coblenz	130–180	100–120
Duesseldorf	140–240	90–150
Coeln	150–250	100–150
Trier	140–200	95–140
Aachen	120–200	90–140
Cassel	120–212	80–150
Wiesbaden	150–240	80–170
Muenster	150–250	100–160
Minden	100–180	60–150
Arnsberg	150–220	100–150
Oberbayern	130–280	100–150
Niederbayern	100–150	80–120
Pfalz	140–160	100
Oberpt Regensburg	80–150	60–120
Oberfranken	100–200	80–130
Mittelfranken	100–200	70–140
Unterfranken and Aschaffenburg	120–190	90–140
Schwaben and Neuburg	140–265	80–175
Bautzen	125–180	80–120
Dresden	120–180	70–120
Leipsic	133½–200	80–133½
Zwickau	100–200	70–140
Neckar district	150–220	100–150
Schwarzwald district	110–250	50–150
Jagst district	120–180	50–120
Donau district	120–200	70–140
Baden	130–250	90–160
Hessen-Grand Duchy	70–220	50–160
Unter Elsass	140–240	110–160
Ober Elsass	180–220	150–180
Lothringen	180–250	110–180
Mecklenburg-Schwerin	120–200	80–150
Sachsen-Weimar	130–180	90–100
Mecklenburg-Strelitz	120–200	70–120
Oldenburg	130–220	80–150
Braunschweig	100–200	70–125
Sachsen-Meiningen	130–190	90–120
Sachsen-Altenburg	120–180	70–150
Sachsen-Coburg-Gotha	100–140	70–90
Anhalt	150–180	100–120
Schwarzburg-Sandershausen	120–160	80–100
Schwarzburg-Rudolstadt	75–200	60–150
Waldeck-Pyrmont	150	100
Reuss, Elder Line	120–155	70–110
Reuss, Younger Line	95–200	65–170
Lippe-Detmold	100–175	70–125
Schaumburg-Lippe	140–150	100–120
Luebeck	140–220	80–160
Bremen	200–300	120–200
Hamburg	180–250	120–185

What a motley picture! What differences even in this, the lowest class of wages! How manifold the conditions of life and labor, not only in the relations of the different states to each other, but even within the narrow borders of a minor state. Not only do East and Northwest Germany differ from each other up to 150 per cent. (compare, for instance, Oppeln and Stade), but the average wages of even the little Thuringian capital exceed those of the neighboring mountain village by 100 per cent., and one town often exceeds the next by so much. Froessen and Goerkwitz, for instance, two villages in the Principality of Reuss (Younger Line) differ by precisely 160 per cent. in the day wages for female laborers. To construct a "normal rate of wages," which should satisfy "them of Froessen" as well as "them of Goerkwitz," is probably beyond the skill of any social democratic conjurer.

But enough of these gentlemen. It is impossible within the limits of a newspaper article to exhaust all the deductions and teachings which arise out of the table. But one observation may be permitted.

It is easy to pursue the line of increase which average German wages follow from province to province. It begins with the lowest wages in the extreme east (East and West Prussia, Silesia, Posen), touches the district of medium wages in Middle and a part of South Germany, and then reaches the highest rates of wages in the empire by two branches, one which travels to the southwest (Reichsland, Wiesbaden, &c.,) and the other to the northwest (the Hanse towns, with their adjoining territory as far as Hanover and Schleswig). It is therefore precisely the same line as the German immigration follows, "the migration to the west."

Even the law which governs local divergencies within the limits of each province, provincial district, and minor state is clearly defined by the figures of the compilation, which we are unfortunately unable to give in detail. Here it is not the "migration to the west," but the "migration to the town," where the higher rates of wages, especially in the large towns, are the attraction.

One would imagine that the continuous flow "towards the west" and "towards the town" would gradually equalize the differences in wages. But there is no trace in our table of any such equalizing influence of the freedom of movement.

DAY WAGES IN SAXONY.

In order to give the Saxon figures in greater detail than was possible in the former table, we have arranged them according to the height of the average wages for adult male laborers, and have added the average wages of female and juvenile laborers for each of the 102 districts (*Bezirke*) for which determinations have been made. Accordingly the "customary local daily wages of an average day laborer" are, in pfennigs:

District.	Men.	Women.	Boys.	Girls.
Town:	*Pfennigs.*	*Pfennigs.*	*Pfennigs.*	*Pfennigs.*
Leipsic	200	133⅓	83⅓	83⅓
Chemnitz	200	120	100	90
Dresden	180	120	90	70
Zwickau	180	120	100	90
Glauchau	180	120	100	90
Crimmitschau	180	120	100	90
Reichenbach	180	140	100	90
Loebau	180	110	90	70

District.	Men.	Women.	Boys.	Girls.
	Pfennigs.	*Pfennigs.*	*Pfennigs.*	*Pfennigs.*
Administrative subdistrict, Dresden-Altstadt*	170	100	70	60
Town:				
Annaberg	160	120	120	80
Plauen	160	120	80	80
Eibenstock	160	100	80	60
Limbach	160	140	90	70
Penig	160	120	100	100
Judicial district:				
Chemnitz	160	110	100	80
Cirimmitschau, Werdau, Zwickau	160	120	80	60
Town:				
Bautzen	150	100	100	60
Bischofswerda	150	100	60	50
Pultnitz	150	100	75	75
Bernstadt	150	120	75	50
Freiberg	150	80	70	60
Grossenhain	150	100	75	50
Koenigstein	150	80	70	50
Lommatzsch	150	80	50	50
Meissen	150	80	50	50
Neustadt	150	100	70	60
Nossen	150	80	50	50
Pirna	150	80	70	50
Schandau	150	80	75	50
Sebnitz	150	120	75	60
Borna	150	83⅓	83⅓	83⅓
Groitzsch	150	100	83⅓	83⅓
Pegau	150	100	100	83⅓
Hainichen	150	100	83⅓	66⅔
Leisnig	150	83⅓	83⅓	66⅔
Colditz	150	80	80	60
Grimma	150	100	100	75
Wurzen	150	100	100	75
Oschatz	150	100	80	60
Burgstaedt	150	100	75	66⅔
Lunzenau	150	100	83⅓	66⅔
Mittweida	150	100	75	65⅔
Rochlitz	150	100	80	80
Auerbach	150	100	90	60
Ehrenfriedensdorf	150	100	80	60
Frankenberg	150	100	80	60
Hohenstein	150	100	80	60
Lengenfeld	150	100	80	60
Lichtenstein	150	100	80	60
Lossnitz	150	100	80	60
Markneukirchen	150	100	100	60
Mecrane	150	120	80	60
Neustädtel	150	100	80	60
Oederan	150	100	100	60
Schneeberg	150	100	80	60
Schwarzenberg	150	100	80	60
Stollberg	150	100	90	60
Thum	150	200	80	60
Waldenburg	150	100	100	60
Werdau	150	160	100	60
Zschopau	150	120	100	60
Administrative subdistrict:				
Meissen	150	80	50	50
Pirna	150	80	70	50
Leipsic†	150	100	83⅓	83⅓
Borna	150	83⅓	83⅓	83⅓
Grimma	150	80	83	60
Oschatz	150	83⅓	66⅔	50
Rochlitz	150	100	75	66⅔
Flochau	150	90	80	60
Glauchau	150	100	80	60
Schwarzenberg	150	80	80	60
Judicial district:				
Leimbach Stollberg	150	100	80	60
Reichenbach	150	100	100	80
Town:				
Zittau	140	100	80	60
Kamenz	140	100	80	60
Dippoldiswalde	140	80	70	50
Riesa	140	80	80	60
Buchholz	140	100	80	60
Oelsnitz	140	100	80	60

* The administrative subdistrict of Dresden-Newtown (Amtshauptmannschaft Dresden-Neustadt) is for the purpose of these statistics divided into thirteen districts (*Bezirke*), whose average vary between the following limits; Adult males, 120–180; adult females, 70–120; boys, 50–90; girls, 50–70 pf.

† Exclusive of the places within a radius of 6 kilometers from Leipsic town, and included with the latter.

District.	Men.	Women.	Boys.	Girls.
Judicial district:	*Pfennigs.*	*Pfennigs.*	*Pfennigs.*	*Pfennigs.*
Dippoldiswalde	140	80	70	50
Freiberg	140	80	70	60
Brand	140	75	70	50
Auerbach-Klingenthal	140	90	80	60
Hartenstein, Kirchberg, Wildenfels	140	100	70	50
Town:				
Doebeln	133⅓	83⅓	83⅓	66⅔
Rosswein	133⅓	83⅓	83⅓	66⅔
Waldheim	133⅓	100	83⅓	66⅔
Admin. Doebeln	133⅓	83⅓	83⅓	66⅔
Subdistrict Marienberg	130	90	80	60
Judicial district:				
Sayda	130	70	60	50
Lauenstein, Frauenstein, Altenberg	130	70	60	50
Town:				
Radeberg	130	80	60	60
Sayda	130	80	60	50
Geringswalda	130	80	60	60
Falkenstein	130	90	80	60
Geyer	130	90	80	60
Marienberg	130	90	80	60
Admin. Zittau	125	85	70	60
Subdistrict:				
Loebau	120	80	60	50
Bautzen	120	80	60	50
Kamenz	120	80	60	50
Grossenhain	120	70	50	50
Annaberg	120	100	80	60
Judicial district:				
Falkenstein, Lengenfeld, Treuen	120	90	80	60
Elsterberg, Pausa, Plauen	120	80	80	50
Town:				
Adorf	120	80	80	60
Treuen	120	90	80	60
Admin. subdistrict Oelsnitz	100	70	50	50

The wages of men vary therefore by exactly 100 per cent., reaching their maximum in the towns of Leipsic and Chemnitz with 200 pfennigs, and their minimum in the subdistrict of Oelsnitz with 100 pfennigs. The greatest area, almost one-half of all the districts, is covered by the arithmetical mean, 150 pfennigs.

The wages of women also vary by exactly 100 per cent. Their maximum is 140 pfennigs in the towns of Reichenbach and Limbach; their minimum 70 pfennigs in the subdistricts of Oelsnitz and Grossenhain. The arithmetical mean would be 105 pfennigs, but the greatest actual area is that of 100 pfennigs.

Still greater are the variations of the wages of boys. They reach their maximum in the town of Annaberg with 120 pfennigs, and their minimum with 50 pfennigs in the subdistricts of Meissen, Grossenhain, and Oelsnitz, and in the towns of Lommatzsch, Meissen, and Nossen. The arithmetical mean would be 85 pfennigs, but the greatest area is that of 80 pfennigs.

Lastly, the wages of girls vary, if we exclude the exceptional case of Penig, from 50 to 90 pfennigs; the latter rate is paid in the industrial towns Chemnitz, Zwickau, Glauchau, Crimmitschau, and Reichenbach. The minimum, on the other hand, embraces nearly a quarter of the whole.

On this account the most usual rate is not the arithmetical mean, but 60 pfennigs, which is paid in nearly half the total number of districts.

As the normal rate of wages, in the sense of that rate in which the majority of the local determinations agree, we must postulate for Saxony:

		Pfennigs.
For men	per day	150
For women	do	100
For boys	do	80
For girls	do	60

An industrial family so composed would earn, under the average conditions of Saxony, a daily wage of 390 pfennigs (=3 marks 90 pfennigs), or, reckoning 300 working days to the year, 1,170 marks annually. We repeat, that we have here in view the average day-laborer in the sense of the sick-insurance law.

INDUSTRIAL WAGES IN SAXONY.

As already remarked, we possess no exhaustive statistics of industrial wages either for the empire or for individual states. The only investigations of any extent are those made by the industrial inspectors of the factory inspection districts of Leipsic and Zwickau. Valuable as these are, they neither have nor make any claim to completeness. Merely to supplement the statistics already given for day wages, and to confirm what has previously been said about the impossibility of the socialistic "normal rate of wages," we give the results of these investigations, arranged according to the height of the average wages for men.

I.—*Inspection district of Zwickau.*

Branches of industry.	Average weekly wages for workers.					
	Over 21 years of age.		From 16 to 21 years of age.		From 14 to 16.	From 12 to 14.
	Male.	Female.	Male.	Female.		
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Polygraphic trades (includes all reproductive processes, such as lithography, zincography, heliography, &c.)	17.30	7.43	12.58	6.00	4.88	1.35
Food and provisions	16.10	7.40	14.67	.....	6.90	2.00
Chemical industry	15.12	7.20	.....	.....	6.10	.....
Heating and lighting materials	14.85	.....	.....	.....	6.00	.....
Machines and instruments	14.31	7.50	7.52	7.50	3.91	1.25
Metal work	13.55	6.10	8.34	4.50	4.93	1.73
Paper and leather	13.54	6.75	9.75	5.50	6.52	2.80
Clothing and cleaning	13.50	6.42	6.31	5.45	4.88	1.58
Textile industry	12.63	7.32	8.04	6.60	5.21	1.83
Earth and stone	12.37	7.58	14.71	.....	7.33	3.81
Wood and carving materials	12.32	4.60	.....	.....	4.10	1.70
Mining and smelting	11.80	.....	.....	.....	4.70	.....

II.—*Inspection district of Leipsic.*

Branch of industry.	Average weekly wages.			
	Adults.		Juveniles.	
	Male.	Female.	Male.	Female.
	Marks.	*Marks.*	*Marks.*	*Marks.*
Polygraphic trades (reproductive processes as before)	17.50	7.80	6.50	5.80
Machines and tools	16.30	7.10	6.00	5.50
Metal work	14.80	6.60	5.60	.....
Paper and leather	14.70	7.10	6.30	5.90
Heating and lighting materials	14.60	.....	5.50	.....
Textile industry	14.50	7.20	6.50	4.80
Chemical industry	14.50	.....	5.80	.....
Food and provisions	14.30	6.80	5.90	5.30
Stones and earths	13.60	6.80	6.50	.....
Wood and carving materials	13.50	.....	6.20	.....
Clothes and cleaning	13.45	7.20	5.80	5.50

Almost the only fact common to these two table is that the polygraphic trades stand at the head. For the rest, such striking differences are shown both in the sequence of the groups as in their average wages in two districts so near to each other as Leipsic and Chemnitz, that the impossibility of fixing a normal or even a minimum rate of wages must be evident to all who have eyes to see.

CURRANT CROP OF GREECE, 1886.

REPORT OF CONSULAR AGENT CROWE.

This year's crop was in its earliest stages expected to prove one of the largest on record, but a prevalence of cool winds and heavy morning dews during the middle of July when the fruit was approaching maturity caused rot amongst the more advanced fruit in some districts.

Fortunately towards the latter part of the month the weather took a sudden favorable change, and thus the reduction in the quantity was nothing like so serious as was at one time apprehended.

Rain (which is so much dreaded by the grower when his fruit is ripening, and still more so when it is exposed on the drying-grounds) was of rare occurrence, and only visited the islands of Cephalonia, Santa Maura, and partially a few districts in the Peloponnesus, so that after all, the total yield is likely to reach 125,000 to 128,000 tons, as against 113,287 in 1885 and 129,268 in 1884.

The following is the approximate yield of each province, viz:

	Tons.
Gulf of Corinth	7,000
Vostizza	10,000
Patras	12,000
Gastuni, Pergos, and Olympia	38,000
Kyparissia, Figliatra, and Gargaliano	17,000
Ligudista, Pylos, Modone and Corone	9,000
Kalamata and Nisi	14,000

	Tons.
Missolonghi, Ætolico Lepanto	2,500
Nauplia and Argos	600
Total, Morea and Acarnania	110,100
Ionian Islands:	
Cephalonia, Santa Maura, and Ithaca	10,500
Zante	6,000
A total of about	126,600

A small quantity is also produced in Laconia, but I have no particulars.

The so-called "Provincial currants," which are the production of Trifyllia and Pylia, and of which what is styled "American staple" is principally composed, are mostly shipped from the places of origin in coasting craft to the ports of Zante and Patras for export, the other regular exporting ports being Vostizza, Catacolo (the harbor of Pergos), Kalamata, Nauplia, and Cephalonia.

Within the last two or three years exports have also been making direct from various points on the more exposed coast of the Morea, but these are generally cargoes in bulk for France, and, as there are no regular export establishments there, this mode of shipment is rather the exception than the rule.

Catacolo exports considerable quantities to the United States, and sometimes shipments are also made from Kalamata, but this latter growth is of a coarser description, and is nothing like so salable as Pergos and the other American staples referred to above. The bulk of the Kalamata crop goes to France to be turned into wine.

The United States also take small quantities of Vostizza and Patras, but so far the demand is very limited, the greater portion of these two fine growths and Gulf being consumed in the United Kingdom.

The production of the Ionian Islands, on the other hand (with the exception of the finer description of Zante fruit styled "Casalina," and which goes to the United Kingdom), is almost entirely shipped to Belgium, Holland, and some parts of Northern Germany.

The prices for such of the Morea growths as were ready, opened this year on the 19th of August and shipments commenced at once, the first steamer for Liverpool being dispatched on the 20th from Zante, followed the next day by others from Patras and Vostizza for London and Liverpool, there being always considerable excitement and racing with these early starters.

In the Liverpool boats there are generally parcels for immediate transshipment to the United States.

The direct steamers for New York are started some days later, when prices as a rule have somewhat declined.

Prices opened this season: For Provincials, about 17*s.* 6*d.* to 18*s.* 6*d.*, free on board, per English cwt. of 112 pounds in barrels of 2½ cwt.; Patras, about 20*s.* 6*d.* to 23*s.* free on board in cases of 1 to 1¼ cwt.; Vostizza, 22*s.* 6*d.* to 23*s.* 6*d.* free on board in cases of 1 to 1¼ cwt.; against 16*s.* 6*d.* to 18*s.* for Provincials, 21*s.* 6*d.* to 25*s.* for Patras, and 31*s.* for Vostizza in the previous season.

The Gulf, Pergos, and Island growths are secured somewhat later, and it was only in early September that average Cephalonia and Zante opened at about 17*s.*, Pergos 15*s.*, and Gulf 19*s.* to 20*s.* per cwt., free on board.

Subsequently ordinary kinds fell 1*s.* to 2*s.* during September, and rallied again with an advance on opening prices in October. This ad-

vance was principally owing to the anticipated demand from the south of France having set in, a certain quantity of currants being in immediate requisition for the "vendage." The demand, however, did not respond to the supply that was sent forward, and as the north of France refused to buy except at much lower prices, a general collapse in the French demand resulted. Meanwhile, the rumors that the Greek Government intended proposing various important financial schemes and imposing an increase of duties have had such an effect on the exchange for foreign bills that business has of late been at a complete standstill.

What the issue of it all will be remains to be seen.

If one may trust the advices from France, it is to be feared she will not be able to assist in the consumption of the crop, as she did last season, for the low price of sugar and other causes allow her to be, to a certain extent, independent of currants, and, since the yield is likely to prove at least 10 per cent. larger than the last, the outlook for the future is not consoling, for, without her assistance, the quantity produced is beyond the powers of consumption of all the rest of the world, and, with an ever-increasing production (under ordinary circumstances), it would be fatal to have to open another season with large unconsumed and unallotted stocks of the former one.

It is, therefore, to be hoped that the well-known intelligence of the Greeks will admit the necessity, before it is too late, of reducing the price of their beautiful little grape, especially as the requisite reduction to meet the emergency of the case does not necessarily imply that the fruit of their labors must be sold at unremunerative prices.

The shipments altogether, up to the 10th instant, were, as compared to last year, as follows:

To—	1884.	1885.
	Tons.	*Tons.*
United Kingdom	42,867	48,736
United States	6,755	5,482
Canada	1,552	783
France	16,042	10,167
North of Europe	8,092	3,942
Trieste	2,287	1,036
Australia	595	628
Russia	30	111
Total	78,220	70,885

By the end of last year, out of a considerably smaller crop, nearly 25,000 tons had been shipped to France, and she took altogether direct from Greece up to July, when stocks were exhausted, about 38,000 tons out of a total crop of 113,300 tons.

It is therefore necessary this year that France should take about 50,000 tons of the crop, which is the surplus over the requirements of all other consuming markets.

It might be argued that France paid as high as 54 or 55 francs, free on board, per 100 kilograms of currants in bulk last year, equal to about 24*s.* per cwt., and that this season prices are much more moderate, say 40 to 41 francs per 100 kilograms; but then the reply is that, unfortunately, the circumstances are totally different, and manipulators of wine in France pretend that they cannot pay even these prices, but hint that a further decline is necessary to induce large consumption.

I think it important to remark that the greatest part of the shipments are effected by English steamers or sailers, with a few Belgian, Dutch,

German, and Norwegian steamers at intervals for the continent of Europe; also by Greek, Italian, and Austrian sailing vessels, principally for Marseilles.

No American steamer or sailer has taken currants for several years past.

The shipments of currants direct from Greece for the United States were:

	Tons.
In 1883	13,895
In 1884	10,175
In 1885	8,283
Up to November 10, 1886	6,755
About to be shipped, over	1,200

The rate of freight per steamers direct for New York during this season has been miserably low and unremunerative, say from 17*s.* 6*d.* to 20*s.* in full per ton gross.

C. L. CROWE,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Zante, November 16, 1886.

SILK SPECULATION OF ITALY.

REPORT OF CONSUL CROUCH.

One year ago from the present writing a marked change was brought about in the raw-silk market by a financial operation so remarkable, on account of the skill with which it was executed, the operators concerned, the objects in view, and the results obtained, that a review of its origin and its effects on the silk trade seem timely.

From 1876 to 1885 there had been a steady fall in the price of raw silk, until at the latter date the position of the silk-growers was so discouraging as to warrant the gravest fears for the future. Silk-growing had become so unprofitable that the agriculturists seemed on the point of abandoning it, and thus an industry for which Northern Italy is peculiarly adapted, and which has been a source of great wealth to the country, was threatened, if not with extinction, at least with immensely decreased production. Moreover, the depreciation in silk reacted most injuriously upon the whole financial and commercial activity. Bankers who had advanced money on raw silk which they held were unable to realize by selling the stock for fear of immediate loss to themselves and the direct ruin of their clients. At this conjuncture a syndicate composed of prominent dealers and bankers, heavy holders of stock, with the moral support and countenance of the minister of agriculture, trade, and commerce, and the financial backing of the Bank of Italy, disposing over a capital estimated from thirty to one hundred millions of francs, was formed, with the object of advancing the prices and restoring confidence.

Previous to the actual formation of the syndicate, the prime movers of the enterprise, by actually visiting the chief centers of silk manufacturing in France, Switzerland, and Germany, had satisfied themselves within a few days, and without awakening the slightest suspicions, that the actual stock on hand was very small and entirely insufficient to last until the next silk harvest. Manufacturers, apprehensive of a

further fall, or fearing by heavy purchases to cause a rise in prices, contented themselves with purchases sufficient for their daily needs. Accordingly the syndicate were able to purchase on one day, November 2, 1885, 1,000 bales at Milan, 500 bales at Turin, 400 bales at Lyons, and smaller quantities elsewhere.

Within a few days prices had risen 14 to 20 per cent. These prices held until the end of December, at which time the consumers endeavoring to bring about a reaction, the syndicate again actively interfered, and a further rise was the result. This having provoked a too active speculation, in the month of January, on the part of the smaller dealers, the syndicate judged it opportune to check this, or, as some claim, found it a favorable opportunity to realize, and unloaded about half of their stock.

The third intervention of the syndicate in the spring of 1886 enabled the Lyonese to realize upon their stocks, after which the market was allowed to take its course until the new harvest. At this time the syndicate were able to advance somewhat the price of cocoons, and to induce the reelers to provide themselves liberally for fear of a further rise. This was the last effort up to the present time, but it is understood that it is intended to interfere at any time when it shall become necessary to prevent a fall in prices, or to restrain speculation from advancing prices immoderately.

In their operations the syndicate have employed about 30,000,000 francs. They obtained an average advance of about 17 per cent., and estimating the total value of all the stock in market during this period at about 200,000,000 francs, the increase in value thus obtained will be from thirty-two to thirty-four million francs. It seems that it was intended to bring about a still further increase, but that the operator in Lyons only secured 400 bales instead of 1,000 bales that had been agreed upon.

In the table appended are shown the prices at the different periods of the syndicate's activity during the past year. It cannot be doubted that the members have been able to profit largely and have had due regard to their own advantage. In fact, complaints have been heard from various sources that their endeavors were not always directed simply to the maintenance of prices, and frequent reference is made to the decided drop after their unloading in February. However, on the whole it must be conceded that the movement has been marked by a certain regard to objects. Any excessive advance has been discouraged, and in general steady prices at the advance accomplished have been maintained. In fact, a general amelioration and encouragement of the Italian raw-silk industry has been brought about, and the moral and indirect effects have been thoroughly beneficial. This is especially evident in the increased confidence on the part of the agriculturists. The late silk harvest was excellent, amounting to about 40,000,000 kilos of cocoons, which, being sold at an average advance of 0.75 franc per kilo, gave an increased gain of some 30,000,000 francs. The total gain to the silk industry through the operations of the syndicate amounts to over 60,000,000 francs.

At present writing the market for raw silk is firm, and there is a general expectation that higher prices will prevail. Reports from the manufacturing centers indicate increased confidence, and the outlook for the silk trade seems much more hopeful.

Table showing the influence of the syndicate on the values of silk for the past year.

[Values in francs per kilogram.]

Quality of article.	Before the operations of the syndicate (end of October, 1885).	First operation of the syndicate (November 15, 1885).	Second operation of the syndicate (January 15, 1886).	Third operation of the syndicate, (March 15, 1886).	Without interference of the syndicate (June 15, 1886).	One year from the first operation (end of October, 1886).
Grèges:	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Extra, special sizes.	45. 00–47. 00	53. 00–55. 00	55. 00–57. 00	57. 00–58. 00	52. 00–53. 00	56. 00–58. 00
One degree, quality (classical) $\frac{9}{11}$, $\frac{12}{13}$, $\frac{14}{15}$	43. 00–44. 00	50. 00–52. 00	52. 00–54. 00	54. 00–55. 00	48. 00–50. 00	54. 00–55. 00
Two degrees, quality (sublimes) $\frac{12}{13}$, $\frac{14}{15}$	30. 00–42. 00	45. 00–48. 00	48. 00–50. 00	52. 00–53. 00	45. 00–47. 00	51. 00–53. 00
Fair, $\frac{14}{15}$, $\frac{16}{17}$, $\frac{18}{19}$	37. 00–39. 00	42. 00–44. 00	41. 00–43. 00	44. 00–46. 00	40. 00–42. 00	46. 00–48. 00
Organzines:						
One degree, quality (classical) $\frac{16}{18}$, $\frac{20}{22}$	52. 00–53. 00	58. 00–60. 00	61. 00–63. 00	64. 00–66. 00	58. 00–60. 00	62. 00–65. 00
Two degrees, quality (sublime) $\frac{18}{20}$	49. 00–51. 00	55. 00–57. 00	57. 00–59. 00	61. 00–63. 00	55. 00–56. 00	59. 00–60. 00
Trams:						
One degree, quality (classical) $\frac{22}{24}$, $\frac{26}{28}$	50. 00–51. 00	54. 00–56. 00	56. 00–58. 00	58. 00–60. 00	54. 00–56. 00	59. 00–61. 00
Two degrees, quality (sublime) $\frac{24}{26}$, $\frac{28}{30}$	46. 00–45. 00	51. 00–53. 00	53. 00–55. 00	56. 00–57. 00	51. 00–52. 00	55. 00–58. 00
Waste:						
(Struse) classical one degree quality	8. 00– 8. 50	9. 00–10. 00	10. 00–11. 00	10. 00–11. 00	12. 00–12. 50	12. 50–13. 50
(Strazze), Italian	10. 00–11. 00	11. 50–12. 00	11. 50–12. 00	11. 50–12. 00	11. 00–11. 50	12. 50–13. 00
(Strazze), Chinese	11. 00–12. 00	13. 00–14. 00	13. 00–14. 00	13. 50–14. 00	13. 00–13. 50	14. 00–15. 00
(Strazze), Bengalese	9. 00–10. 00	10. 50–11. 50	10. 50 11. 50	10. 50–11. 50	10. 00–10. 50	11. 00–12. 00
Galletame, one degree quality	2. 50– 3. 00	2. 75– 3. 20	3. 20– 3. 60	3. 25– 3. 75	3. 50– 4. 00	3. 50– 4. 25
Cocoons:						
Red (Galetta)	2. 50– 3. 00	3. 00– 3. 50	3. 00– 3. 50	3. 00– 3. 50	3. 50– 4. 10	3. 70– 4. 20
Worm eaten (tarmate)	4. 25– 4. 75	4. 75– 5. 50	4. 50– 5. 25	5. 00– 5. 25	6. 00– 6. 50	6. 00– 7. 00
Green, as they run	9. 50–10. 00	11 00–11. 50	12. 00–13. 00	13. 00–14. 00	11. 00–11. 50	12. 50–13. 00
Yellow, as they run	10. 00–10. 50	11. 75–12. 25	13. 00–14. 00	13. 50–14. 50	11. 25–11. 75	13. 00–14. 00
Crossed	8. 50– 9. 00	10. 00–11. 00	11. 50–12. 00	12. 50–13. 50	10. 50–11. 00	12. 00–12. 50
Pierced (sfarfallate)	7. 00– 8. 00	9. 00–10. 00	9. 25–10. 50	9. 50–11. 00	10. 00–11. 00	11. 00–11. 50
Doubles, selected	4. 10– 4. 20	4. 25– 4 50	4. 50– 4. 90	5. 00– 5. 25	5. 25– 5. 50	5. 50– 6. 00

HENRY C. CROUCH,
Consul.

UNITED STATES CONSULATE,
Milan, November 5, 1886.

MINING IN NORWAY.

REPORT OF CONSUL GADE.

Mining is carried on in Norway for extraction of gold, silver, iron, copper, pyrites of sulphur, nickel, cobalt, chrome, zinc, and lead; besides apatite and feldspar. However, the country is not rich in ores and useful minerals; on the contrary, in proportion to its great extent and its large bulk of rocks it is poor in minerals. The districts richest in ores are:

(1) The province of Buskerud, with silver, cobalt, nickel, and iron.

(2) The provinces of Bradsberg and Nedenaes, with iron, nickel, and cobalt.

(3) The provinces of Stavanger and South Bergenhuus, with pyrites of sulphur, copper, and titan iron.

(4) The province of Trondhjem, with copper and pyrites of sulphur.
(5) The two most northern provinces seem also to be among those richer in ores.

In the other districts of the country little, if any, mining exists.

A generation ago (about thirty years ago) the iron works formed still the most important branch of the Norwegian mining industry. The ores were chiefly produced at mines near Skien, Krageró, and Arendal, and were smelted and refined in houses situated in the forest districts, often very far from the mines. Next to them the copper works, all of which were at that time situated in the northern parts of the country, had the greatest importance. The silver works at Kongsberg, once the largest mining establishment in the country, came next in rank, and finally the cobalt works at Modum and the chrome mines at Róros. The mining of nickel, of pyrites, of sulphur was still in its infancy. No mining whatever existed then in the Stavanger and South Bergenhuus provinces, nor in the most northern, with the exception of the Alten copper mines. About all the ores obtained were then smelted in domestic smelting houses, and hardly any exportation of crude minerals existed. Most of the mines were Norwegian property, and only the cobalt mines at Modum and the copper works of Alten were worked by foreigners.

This has gradually changed. The iron works have closed, or nearly so. The mining, of pyrites, of sulphur has, on the other hand, become very extensive. Nickel had a very prosperous period, when this metal yielded as much profit as the iron works did in the most flourishing times. Large mining establishments among which the largest in the country have been made on the western coasts, formerly considered so poor in minerals. The exportation of crude or half-refined ores has increased, while the domestic smelting industry has fallen off; and, finally, the majority of the larger mining concerns have passed over to foreigners.

PRECIOUS METALS.

The silver mines of Kongsberg have been worked since 1624, and have yielded silver for an aggregate sum of about 130,000,000 kroners. For many years they were worked with loss, but have now for a number of years brought a fair profit. At present they are the largest mines but one in the country, employing about 350 men, and have during the last years produced 6,000 to 7,000 kilograms silver annually, with a net income for the Government of about 300,000 kroners, besides the interest of the reserve fund. At the environs of Kongsberg mining of silver has been carried on by private companies, but they have now given it up. In the province of Nordland, especially at Vefsen, mining of silver has been carried on since 1879, and silver ore has for some years been exported from the Svenningdal mines for over 100,000 kroners, but the veins seem to vary a good deal. Mining of silver ore has also for some years been carried on on the island of Hetteren.

Gold has up to this time been of no importance in the mining industry of the country.

IRON.

The subjoined tables will show the condition of the production of iron and the consumption of iron during a longer period:

Average annually during the years—	Production.			Men employed at the iron works.	Imports of iron and iron-ware.	Consumption of iron.	
	Iron ore.	Pig-iron.	Wrought iron.			Total.	Per each individual.
	Tons.	*Tons.*	*Tons.*	*Number.*	*Tons.*	*Tons.*	*Kilograms.*
1851–'55	28,400	9,090	5,430	1,820	8,160	14,400	10
1856–'60	22,000	8,830	4,820	1,620	12,850	19,400	12
1861–'65	24,500	7,720	4,500	1,539	14,900	20,850	12
1866–'70	20,200	5,240	2,140	775	19,500	22,000	12
1871–'75	25,750	1,950	550	465	32,900	32,500	18
1876–'80	12,900	1,040	450	153	40,500	38,700	21
1882	1,950	740	400	114	39,800	36,500	19

COPPER AND PYRITES OF SULPHUR.

The principal copper ores in Norway are pyrites of copper and pyrites of sulphur containing copper. The pyrites of sulphur which contain too little copper to be used as copper ores were formerly valueless and were not mined. But from the years about 1860, when there became a great demand for them as a material in the factories of sulphuric acid, they have been worked on a large scale in Norway. The pyrites of sulphur are exported in raw condition, and the copper contained in them is only gained when the sulphnr has been burned off at the factories of sulphuric acid. The largest quantities of pyrites are to be found near Trondhjem and Bergen.

The Róros works, which are Norwegian property, have been worked since 1644. With an annual production of nearly 300 tons of pure copper, they were for a number of years the most important copper works in the country, and are at present the largest mining establishment in the country but two. Two hundred and seventy men are employed there, and during the last years considerable mining of pyrites has been carried on also for exportation.

The Meraker works, in the province of North Trondhjem, produced for a number of years about 70 tons of pure copper annually. The Ytterólto mines, also situated in the North Trondhjem province, were originally worked for copper, but have later been worked on a large scale for English account for gaining pyrites of sulphur. As to the quantity of the ore, the mining here was for some time the largest in the country. Several mines were worked in the neighborhood of Trondhjem, especially in the Meldal, and near Bergen, the Valaheien mines, besides others, were operated on a large scale for gaining copper and pyrites of sulphur.

The works, on the Karmó Island, in the province of Stavanger, owned by Belgians and Frenchmen, were first operated in 1865, and are now the largest mining establishment in the country, occupying about six hundred workmen. The shafts have been sunk nearly 500 meters. The pyrites richest in copper are smelted on the spot into a product containing 25 per cent. of copper. In this product more copper was, during the last years, contained than in the aggregate production of copper from the other mines in the country (in 1882 over 400 tons of copper), but the bulk of the pyrites is exported.

The Omdal works are operated by Englishmen, with 100 to 150 men.

The following tables show how the mining of copper and pyrites has developed during a longer period of years:

Average annually in years.	Production of copper ore and pyrites.				Exports of copper ore and pyrites.	Men employed at the mines.
	Röraas.	Yttirön.	Vigsnes.	Total.		
	Tons.	*Tons.*	*Tons.*	*Tons.*		
1851–'55	6,570	110	.....	12,660	300	825
1856–'60	4,650	130	.....	11,370	680	891
1861–'65	5,220	9,870	240	26,520	9,270	1,018
1866–'70	6,630	31,740	16,000	82,540	71,040	1,664
1871–'75	4,580	20,900	26,450	85,000	82,050	1,359
1876–'80	7,700	4,850	28,950	56,900	52,450	1,073
1882	14,800	7,960	48,740	88,560	66,690	1,625

The annual outputs of copper ore and pyrites contain much more copper than the annual consumption of the country, which amounts to about 500 tons, but the pure copper smelted here is not sufficient for the consumption of the country. The smelting of copper employs 150 to 200 men.

Nickel is gained in Norway from pyrites of magnet containing nickel (1 to 3 per cent.). Most of the nickel works which are owned by Norwegians are situated in the eastern part of the country, viz, the Espedal works in the province of Christian, long ago laid down; the Rom works in the province of Smaalenene, the Rengerige and Sigdal works in the province of Buskerud, the Bamber works in Bratsberg, and the Evje works in Nedendes; also in the Vaerdal and Senjen, far in the north. The mining of nickel was exceedingly large in the years about 1870, but fell off gradually, owing to the decline of the prices, and has now stopped almost altogether. The greater part of the nickel ore was smelted in the country itself to different products containing until over 60 per cent. of nickel, which were exported to foreign countries for further refinement. In 1876 the Rengerige works occupied 261 men, the Bamble works 129, and the Senjen works 128 men.

The following table shows the output of nickel:

Average annually in the years.	Production of nickel ore.	Production of the smelting-houses.		Workmen.		
		Nickel.	Approximate value.	At the mines.	In the smelting-houses.	Total.
	Tons.	*Tons.*	*Kroners.*			
1866–'70	4,525	40	179,000	127	57	184
1871–'75	18,840	116	1,298,000	292	173	465
1876–'80	16,150	132	917,000	182	148	330
1874	22,030	136	1,787,000	366	228	594
1875	34,850	254	3,117,000	451	333	784
1876	42,550	332	2,580,000	504	329	833
1882	14,010	104	645,000	89	114	203

The cobalt works of Modum have been worked for over one hundred years, and employed 100 to 150 men. The production of cobalt has stopped long since. Only some products containing about 18 per cent. cobalt are gained now, and are exported for further refinement abroad.

Mining of zinc and lead ores was carried on in the years about 1870 at the Konerud mines, near Drammen. Mining of zinc ores have also been carried on in the Ryfylke district.

The chrome mines in the northern parts of the country have hardly been worked since about 1875. The chrome factory at Trondhjem was laid down already in 1867. Its annual production was 12,000 to 13,000 kilograms.

Of non-metallic minerals, which have been produced from Norwegian mines, may be mentioned apatite, used for the manufacturing of fertilizers, and feldspar, employed in the manufacturing of porcelain. The former mineral is chiefly found between Langesund and Arendal. The feldspar mines of Odegaarden in Bamber have been one of the largest establishments in the country, and are worked by a French company, which employed over 300 workmen. The feldspar is gained from seams of granite chiefly in the Smaalenene. Both these minerals are exported.

The number of the workmen employed at the mines and the smelting houses and their distribution into the different branches of production will be seen from the following comparative table:

Average annually in the years.	Silver.	Iron.	Copper and pyrites of sulphur.	Nickel.	Cobalt.	Other metals.	Total.	Only in smelting houses.
1851-'55	380	1,820	1,030	180	200	105	3,715	1,825
1856-'60	435	1,620	1,010	25	200	110	3,400	1,570
1861-'65	448	1,538	1,273	100	175	104	3,638	1,625
1866-'70	394	775	1,881	184	60	101	3,395	904
1871-'75	378	465	1,559	465	117	80	3,064	646
1876-'80	378	152	1,286	332	140	.....	2,288	494
1882	407	114	1,765	203	130	20	2,638	402

The aggregate value of the mining and smelting industry of Norway may be estimated as given in the following table:

Average annual in the years.	Silver.	Iron.	Copper and pyrites sulphur.	Nickel.	Cobalt.	Other metals.	Apatite.	Feldspar.	Total.
	Kroners.	*Kroners.*	*Kroners.*	*Kroners.*	*Kroners.*	*Kroners*	*Kroners.*	*Kroners*	*Kroners.*
1851-'55	900,000	1,350,000	1,035,000	100,000	120,000	130,000	.....	.....	3,635,000
1856-'60	1,000,000	1,350,000	1,050,000	45,000	115,000	145,000	.....	.....	3,705,000
1861-'65	520,000	1,210,000	1,120,000	100,000	80,000	145,000	.....	.....	3,175,000
1866-'70	600,000	985,000	1,285,000	225,000	45,000	105,000	.....	.....	4,245,000
1871-'75	565,000	790,000	2,780,000	1,495,000	110,000	25,000	78,000	58,000	5,911,000
1876-'80	670,000	359,000	2,220,000	927,000	230,000	3,000	363,000	96,000	4,868,000
1882	878,000	311,000	3,153,000	680,000	230,000	15,000	1,870,000	104,000	7,211,000

GERHARD GADE,
Consul.

UNITED STATES CONSULATE,
Christiania November 23, 1886.

OF THE NECESSITY OF PROHIBITING AMERICAN VINE-STOCK IN TUNIS.

[Translated from the *Économiste français* of November 20, 1886.]

A certain number of persons are striving to have the introduction of American vines authorized in Tunis. The most thoughtful viticulturists consider, with reason, that the importation of this exotic stock would be a great danger to the regency. At this present moment the Tunisian vineyards are perfectly healthy; no phylloxeric stain has been found in them. It is possible that this state may continue for a great number of years. Under such conditions it is evident that the culture of French vines, whose adaptability to the soil of Tunis is certain and of little expense, appears much more remunerative than the very contingent success and very costly culture of American stock. This is all the more true, for according to the last agricultural study made of the regency by the ministerial delegate, Mr. Gastine, the greater part of Tunisian lands are calcareous, clayish, or marl. Now, it is precisely to such lands, as is proved by experiments made in the departments of Hérault, Var, Bouches-du-Rhone, and Gard, that the American vine adapts itself the least, and on which complete failures are very frequent. We, therefore, insist that the minister resident should prohibit in a strict manner the introduction of exotic stock into Tunis, and especially of American vines. The whole future of Tunis depends on it. We add that the principal vine-growing provinces of Tunis, notably those of Enfida, Schniggui, &c., were not represented at the meeting where a certain number of vine-growers had the imprudence to request permission to introduce foreign stock. Here are a few extracts from the report of the official delegate, Mr. Gastine, who, like us, concludes energetically against this introduction:

"The introduction of American vines into a healthy country offers evident dangers that cannot escape the attention of any person familiar with the history of phylloxera, and who has studied its ravages in vine-growing regions. These dangers are partly immediate and partly remote. It is necessary to examine them in succession.

"The immediate danger consists in introducing, with American vine, phylloxera itself, no matter how minute the care taken before the transportation of the stock to ascertain its state of phylloxeric immunity.

"On American vines, the proof of a healthy state is infinitely more difficult to ascertain than on French vine-stock. This difference is owing to the fact that they offer a more or less marked resistance to the parasite. Certain varieties of vines can feed phylloxera on their roots for years without showing any exterior signs of decay. The way to ascertain their phylloxeric state is to examine the roots; but this examination, be it ever so minute, cannot give the certainty of immunity. The insects are often few in number or not very apparent. The result is, that the danger of introducing the parasite subsists, in spite of all the care that one might take in the selection of the stock. The French vines (*Vitis vinifera*) disclose, on the contrary, at a very early stage, the presence of the parasite by a significant withering and by the alteration in the tissues of their roots. Their examination furnishes to the observer data infinitely more reliable by which to determine the reality of their phylloxeric immunity.

"This relative resistance of American vines offers a constant danger, less immediate than the one above described, but as real, in a country where the vineyards need to be protected. It results in rendering the supervision of the vines uncertain. The plantations of American vines can, in fact, shelter the parasite without its presence being detected by general researches, based for the most part on the exterior character of phylloxeric stains.

"Under such conditions, the spots attacked by phylloxera, which it is so important to locate in the very beginning, remain concealed for a long while; the swarms are allowed to develop freely; they disseminate the evil in the neighboring vineyards, and when the phylloxeric stains begin to appear later, one finds oneself facing a general invasion covering important areas, which requires very costly protective treatment and often proves insufficiently successful.

"It is an undoubted fact, that American vines, by concealing the phylloxeric invasion during the first years, constitute a permanent danger, which renders their presence incompatible with the exigencies of a rigorous defense. The first condition of success for a repressive treatment of phylloxera consists evidently in the discovery of the evil at the earliest stages of its appearance.

"But these are not the only dangers of American vines. They play a much more serious part in the dissemination of the parasite, not only through colonies around stains originating with them but also through the medium of direct transportation. Owing to the infatuation too often thoughtless, of viticulturists, and the incessant

propaganda of nursery-men, the American vines possess a fictitious value (reputation); they constitute a merchandise which is carried right and left, entering every vineyard, each one believing it to be to his interest to possess and experiment with a few specimens of this marvelous stock. One single phylloxerated nursery is thus sufficient to infest a whole country and annul the efforts made through other channels to arrest the evil.

"The transportation of American vine-stock has played and still plays a pernicious and prevailing part in the constant progress of the scourge in France. It is against this danger that is aimed the present legislation in France, Algeria, and other wine-growing countries. Of course, under the same circumstances the indigenous stock may also become a vehicle of the disease, but its multiplication is generally on the spot, without risk of the phylloxera disseminating; at any rate it does not constitute the basis of a trade that is liable to spread the infection by distant exportations.

"One can see that it is not without the gravest motives that Algerian legislation and that proposed for Tunis, which is similar, proscribe as eminently dangerous and contrary to the necessities of protection the culture and propagation of American vines, even when obtained through the medium of seed, with the most favorable chances of their phylloxeric immunity. In a healthy country, or one only slightly tainted, the purpose to be accomplished being to delay as long as possible the entrance and propagation of the parasite into the vineyards, all considerations of tolerance, otherwise admissible, must disappear under risk of failure. This purpose cannot be effectually carried out without the application of prohibitive measures and without a constant supervision of the vineyard, securing the destruction of phylloxeric centers as soon as they appear. The maintenance of a perfectly healthy state, which insures success in the culture of vineyards, is the principal aim which must, beyond doubt, take the lead of any other, without exception.

"The history of phylloxera and its encroaching march has demonstrated one fact, that is, that the transportation of the parasite is always effected, when large distances are concerned, by contagious introductions through human channels. It is well to insist on this point, as it is a capital one of phylloxeric invasions. Undoubtedly the insect can spread of itself by means of colonies, and thus contaminate a vast area of vineyards, but such a dissemination can only take place from one to the other, by successive flights of short distances, that can only occur in regions where vineyards are contiguous or separated solely by slight obstacles. An insect as delicate as the winged female of the phylloxera cannot cross, without dying, when carried away by violent winds, large tracts of territory devoid of vineyards or vast spaces of sea. In other words, the phylloxeric colonies have only a restricted range which allows of possible protection and of certain isolation when the distances to be crossed by the winged insect become considerable, as is the case with Tunis. At the present moment the vineyards established in that country are extremely remote from any other vine-growing center. They constitute groups isolated on all sides, and it is plausible to admit that man alone, through ignorance or imprudence, can under such conditions cause the importation of the disease.

"By way of Sicily the winged phylloxera would have more than 280 kilometers to cross before reaching the coast of Tunis. From the side of Algeria, the distance, with regard to the position of the stains of Philippeville, which are the nearest and whose destruction is effected, measures about the same. A whole mountainous region devoid of vineyards offers, beyond the middle valley of Medjerdha, to the approaches of Sonkaras, an excellent defensive frontier. Between the different groups of Tunisian vineyards large areas devoid of vines render the confinement of the evil very easy. It is therefore not doubtful that the vineyards of Tunis are situated in the most favorable conditions for protection; consequently, the most strenuous efforts must be made not to jeopardize such a privileged situation which is bound to attract to that country many vine-growers who have suffered in France from the phylloxeric crisis.

"The importation of American vines would annihilate all these advantages. It would be useful to do the contrary, if it were legitimately possible, and indemnify the few owners who possess American vine-stock on very limited spots in Tunis. Owners desirous of propagating American vines have enough free space in the south of France, and, unfortunately, even in the center, to give full scope to their studies. There, at least, their pioneer efforts might be pursued without injuring any superior interest.

"In a healthy country, easy to defend, as Tunis is, the logical way is not to pass by difficulties and agricultural complications, which have not yet wholly been conquered in France after ten years' consecutive practice, whatever may be said to the contrary, notwithstanding the undisputed cleverness of the viticulturists who have devoted themselves with passionate ardor to the reconstruction of vineyards through the medium of American vines and the powerful means of action they have adopted to support their doctrine. The wine-growers of Tunis have before them a flourishing future if they know how to reserve their efforts for useful channels, if they profit by the remarkable quality of their lands, utilize their sand, and maintain by their prudence the advantages of a privileged topographical situation."

DECLARED EXPORTS OF MEXICO FOR THE UNITED STATES.

Exports declared for the United States during the three quarters ending September 30, 1886.

[Compiled from the consular returns by C. W. Seawell.]

ACAPULCO.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Canned fruit			$67 50	$67 50
Green fruit	$7,475 12	$16,611 85	12,484 75	36,571 72
Hides	960 00	2,427 50	3,681 84	7,069 34
Logs, cedar		2,000 00		2,000 00
Plants	7 50		10 00	17 50
Skins:				
Deer	1,345 00	1,676 82	1,325 40	4,347 22
Goat	213 96	259 19	381 80	854 95
United States gold coin		3,000 00		3,000 00
Walking-canes		12 00		12 00
Total	10,001 58	25,987 36	17,951 29	53,940 23

CHIAPAS.

Coffee		$25,335 00		$25,335 00
Hides		1,972 35		1,972 35
Rubber		1,165 00		1,165 00
Skins, deer		410 45		410 45
Total		28,822 80		28,822 80

COATZACOALCOS.

Mahogany and cedar		$8,233 55	$930 00	$9,163 55

FRONTERA DE TOBASCO.

Alligator-skins			$1,300 00	$1,300 00
Coffee	$132 40			132 40
Deer-skins	1,131 88		1,961 96	3,093 84
Hides	14,035 92		16,747 23	30,783 15
Logwood	200 00		200 00	400 00
Mahogany	22,177 13		29,367 05	51,544 18
Pump	20 00			20 00
Rubber	51 75		474 25	526 00
Specie	286 00			286 00
Sugar			4,933 08	4,933 08
Miscellaneous	8 00			8 00
Total	38,043 08		54,983 57	93,026 65

GUAYMAS.

Cattle	$9,910 00	$15,518 00	$8,887 00	$34,315 00
Copper bars		5,113 10		5,113 10
Guayacum logs			207 50	207 50
Hides	3,123 50	5,991 50	2,454 05	11,569 05
Horses	1,179 00			1,179 00
Ore samples	200 00			200 00
Plumbago	107 50		339 00	446 50
Powder, returned	700 00			700 00
Silver ore	8,420 00	23,282 50	8,237 00	39,939 50
Silver and gold bars			38,093 09	38,093 09
Total	23,640 00	49,905 10	58,217 64	131,762 74

Exports declared for the United States, &c.—Continued.

GUERRERO.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Beef hides, goat, kid, deer, and hog skins	$3,233 42	$2,476 87	$2,467 67	$8,177 96
Cattle	718 89	1,945 75	175 44	2,840 08
Horse hair	19 56	.....	9 57	29 13
Mules and horses	2,829 07	1,815 60	194 20	4,838 87
Sheep, lambs, and goats	.....	1,515 72	.....	1,515 72
Wool	.....	399 73	.....	399 73
Total	6,800 94	8,153 67	2,846 88	17,801 49

LA PAZ.

Damiana leaves	.....	$318 70	$52 50	$371 20
Castings	.....	10 00	.....	10 00
Hides	$4,025 00	5,341 87	3,943 25	13,310 12
Mother-of-pearl shells	1,125 00	1,812 50	.....	2,937 50
Orchilla	502 30	2,579 00	1,279 00	4,360 30
Ore (silver)	.....	.....	205 00	205 00
Pearls	.....	1,002 50	1,002 50	2,005 00
Salt	315 00	.....	.....	315 00
Shells	.....	.....	1,397 50	1,397 50
Skins	85 00	197 00	134 85	416 85
Tan-bark	.....	2 00	212 50	214 50
Total	6,052 30	11,263 57	8,227 10	25,542 97

MATAMORAS.

Animals	$77,518 50	$67,645 00	$40,717 50	$185,881 00
Asphalt	944 30	.....	.....	944 30
Bones	10,900 00	9,068 43	1,142 00	21,110 43
Chicle	.....	513 75	.....	513 75
Goat, deer, and other skins	27,932 47	29,369 04	26,973 70	84,275 21
Goods in transit	8,222 09	.....	.....	8,222 09
Hair	10,333 12	8,344 71	4,677 18	23,355 01
Hides and calf-skins	47,569 51	42,577 24	32,567 89	122,714 64
Istle	.....	986 81	475 04	1,461 85
Wool	2,313 68	10,653 28	6,646 12	19,613 08
Miscellaneous	1,910 07	1,440 73	1,356 73	4,707 53
Total	187,643 74	171,098 99	114,556 16	473,298 89

MAZATLAN.

Boring tools	.....	$322 00	.....	$322 00
Bullion and specie	$660,730 17	474,621 32	$408,123 34	1,543,474 83
Castor-oil beans	.....	107 50	.....	107 50
Dry pepper	191 50	44 50	.....	236 00
Fish fins and skins	.....	92 50	.....	92 50
Hides	2,683 75	2,375 25	3,174 95	8,233 95
Lignum-vitæ	.....	208 64	.....	208 64
Limes	20 00	51 50	107 50	179 00
Oranges	107 50	.....	.....	107 50
Orchilla weed	.....	.....	962 34	962 34
Ore (silver)	.....	3,615 25	412 12	4,027 37
Miscellaneous	583 05	.....	1,062 12	1,645 17
Total	664,315 97	481,438 46	413,842 37	1,559,596 80

Exports declared for the United States, &c.—Continued.

MERIDA.

Articles.	Quarter ending— March 31.	June 30.	September 30.	Total.
Deer-skins	$15,718 19	$12,940 00	$1,548 90	$30,207 09
Hair	106 00	1,950 00	272 75	2,328 75
Hammocks	2,607 17	12,161 00	13,264 00	28,032 17
Henequen fiber	500,049 94	631,727 00	805,376 80	1,937,153 74
Hides	16,703 26	17,355 00	6,058 40	40,116 66
Logwood	11,200 12	11,384 00	16,000 00	38,584 12
Sponges	.....	.....	84 25	84 25
Turtle shell	.....	180 00	.....	180 00
Total	546,384 68	687,697 00	842,605 10	2,076,686 78

MONTEREY.

Beans	$97 20	.....	.....	$97 20
Birds, mocking, and others	.....	$16 20	.....	16 20
Chile	442 98	477 09	.....	920 07
Chocolate	.....	14 98	.....	14 98
Canary birds	.....	186 30	.....	186 30
Goat-skins	7,217 62	1,803 62	.....	9,021 24
Horses	1,737 45	1,569 37	.....	3,307 82
Horse hair	507 43	53 46	.....	560 89
Monales	92 34	195 21	.....	287 55
Mules	.....	29 16	.....	29 16
Orchestrion	.....	486 00	.....	486 00
Palm hats	.....	94 36	.....	94 36
Parrots	.....	28 35	.....	28 35
Peloncello	113 40	37 66	.....	151 06
Miscellaneous	98 46	87 48	.....	185 94
Total	10,306 88	5,079 24	.....	15,386 12

NUEVO LAREDO.

Copper ore	$5,418 89	.....	.....	$5,418 89
Hair	9,602 83	$6,616 45	$1,636 03	17,855 31
Hides and skins	136,547 47	67,252 35	42,006 61	245,806 43
Istle	18,739 32	20,422 51	8,543 38	47,705 21
Lead	61,253 86	32,802 63	33,316 49	127,372 98
Live stock	39,735 00	28,407 73	28,043 36	96,186 09
Silver bullion	62,100 43	51,885 64	22,519 62	136,505 69
Silver ore	.....	15,400 00	6,113 80	21,513 80
Wood	238 40	12,840 64	15,043 13	28,122 17
Miscellaneous	15,122 87	4,506 34	3,066 29	22,695 50
Total	348,759 07	240,134 29	160,288 71	749,182 07

PASO DEL NORTE.

Beans, Mexican	$778 00	.....	$690 00	$1,468 00
Bones	.....	$1,092 37	.....	1,092 37
Books	206 00	160 00	.....	366 00
Bullion:				
Gold	4,865 40	1,777 54	1,633 12	8,276 06
Lead	.....	.....	1,625 00	1,625 00
Silver	326,095 76	58,114 78	19,184 19	403,394 73
Gold and silver	90,893 48	308,889 53	355,330 36	755,113 37
Cattle	25,739 00	41,732 00	17,430 00	84,901 00
Cigars and cigarettes	3,529 22	5,273 38	1,780 24	10,582 84
Cement	.....	60 60	.....	60 60
Coffee, Mexican	.....	262 94	.....	262 94
Coin:				
Gold	33,013 00	6,559 00	66,098 00	105,670 00
Silver	554,826 00	541,700 00	1,481,573 00	2,578,099 00
Cotton cashmeres	.....	20 00	.....	20 00
Fire-arms	.....	.....	1,000 00	1,000 00
Earthenware	15 00	50 00	231 99	296 99
Embroidery, gold and silver	.....	560 00	.....	560 00

Exports declared for the United States, &c.—Continued.

PASO DEL NORTE—Continued.

Articles.	Quarter ending— March 31.	June 30.	September 30.	Total.
Hats:				
Mexican	$836 98	$1,535 50	$338 82	$2,711 25
Trimmings for		17 00		17 00
Hides and pelts	87,624 20	88,887 50	12,368 00	188,879 70
Horses and mules	3,992 50	13,209 00	14,878 60	32,080 10
Instruments:				
Musical	469 75	190 00	235 00	894 75
Surveyor's	1,500 00	400 00		1,900 00
Jewelry and precious stones	3,747 00	923 00	65 00	4,735 00
Machinery			3,247 00	3,247 00
Oil paintings, ornaments, &c		260 00	386 80	646 80
Perfumery		22 00		22 00
Saffron	500 00	940 00		1,440 00
Shoes		57 50		57 50
Silver ores	267,388 04	361,654 42	472,960 07	1,102,002 53
Smokers' articles		14 00		14 00
Sugar, Mexican		217 50	50 00	267 50
Sulphurets			30,000 00	30,000 00
Underwear, silk	500 00			500 00
Wax figures		18 00		18 00
Wool	9,654 73	20,292 50		29,947 23
Woolen goods	864 00	152 50	153 30	1,169 80
Miscellaneous	5,983 35	1,679 50	3,655 60	11,318 45
Total	1,422,421 36	1,456,722 06	506,818 97	5,364,057 51
Goods in transit.				
Bullion, lead				15,065 00
Cigars and cigarettes				3,016 00
Cotton piece goods				411 00
Hardware				850 00
Hats, Mexican				966 00
Shoes				538 00
Sugar, Mexican				1,200 00
Wool				4,197 00
Woolen goods				40 00
Miscellaneous				3,317 00
Total				29,600 00

PIEDRAS NEGRAS.

Cattle	$51,318 24	$13,881 44	$9,827 08	$74,526 76
Coal	52,707 03	63,891 09	1,706 02	118,304 14
Corn	2,650 37	720 00	470 92	3,841 29
Hides and skins	14,157 13	9,256 28	6,431 29	29,844 70
Horse stock	19,406 12	11,478 82	15,543 16	46,428 10
Silver ore	3,555 72	14,041 78	13,744 54	31,342 04
Wool		24,349 55	5,883 39	30,232 94
Miscellaneous	829 88	1,731 55	3,194 84	5,756 27
Total	144,624 49	138,845 51	56,901 24	340,271 24
In transit.				
Bullion, lead				67,690 00
Ore, silver				1,000 00

SALTILLO.*

Goat-skins		$7,886 93	$13,959 62	$21,846 55
Hides			150 00	150 00
Horse:				
Stock		506 00		506 00
Hair		883 32	2,315 60	3,198 92
Istle		12,105 75	8,620 22	20,725 97
Ore		221 85		221 85
Wool			248 32	248 32
Total		21,603 85	25,293 76	46,897 61

*No exports were declared for the March quarter, and statement shows only about one-fifteenth of the exports for the June quarter, the products of this district exported having been declared at another consulate.

Exports delared for the United States, &c.—Continued.

SAN BENITO.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Cocoa			$375 00	$375 00
Coffee	$27,079 22			27,079 22
Hides	3,819 06		1,494 15	5,313 21
Rubber	640 75		2,268 00	2,908 75
Skins	3,479 60		666 25	4,145 85
Total	35,018 63		4,803 40	39,822 03

SAN JOSÉ AND CAPE SAN LUCIA.

Cheese	$207 96			$207 96
Damiana			$278 20	278 20
Hides	1,662 00		1,233 00	2,895 00
Skins	58 25		77 50	135 75
Sugar-cane	100 10			100 10
Sweetmeats	12 48			12 48
Tortoise-shell	42 50			42 50
Miscellaneous	15 00		159 95	174 95
Total	2,098 29		1,748 65	3,846 94

TAMPICO.

Coin:				
Gold			$740 00	$740 00
Silver			2,000 00	2,000 00
Deer-skins	$314 40	$510 48	980 60	1,805 48
Fustic	17,630 64	21,385 85	25,461 40	64,477 89
Goat-skins		394 00		394 00
Gutta-percha	17 60			17 60
Hides, dry	18,957 16	24,115 99	18,056 98	61,130 13
Honey	4,568 00	2,856 75	9,203 52	16,628 27
Horse hair	613 52	1,204 65	762 22	2,580 39
Istle	37,008 54	44,736 68	35,746 65	117,491 87
Jalap	59 56			59 56
Parrots	72 00		880 00	952 00
Sarsaparilla	9,584 24	12,206 84	6,337 62	28,128 70
Silver bullion		10,500 00		10,500 00
Miscellaneous			119 10	119 10
Total	88,825 66	117,911 24	100,288 09	307,024 99

TEHUANTEPEC.

Brazil wood	$5,639 55	$15,747 26		$21,386 81
Hides and skins	13,569 69		$9,090 09	22,659 78
Rubber and hog's hair			88 44	88 44
Total	19,209 24	15,747 26	9,178 53	44,135 03

VERA CRUZ.

Asphaltum	$300 00	$564 50		$864 50
Broom root	38,582 30	28,989 30	$31,830 50	99,402 10
Books	3,592 75			3,592 75
Cochineal	1,338 00			1,338 00
Coffee	410,858 74	580,029 34	250,600 71	1,241,488 79
Deer-skins	909 00		1,779 92	2,688 92
Earthenware	4,805 06			4,805 06
Feathers	86 08	383 10		469 18
Fustic	4,844 00	8,096 80	2,310 00	15,250 80
Goat-skins	342,671 22	61,181 68	40,622 20	444,475 10
Hides	65,301 93	65,454 87	73,517 24	204,274 04

Exports declared for the United States, &c.—Continued.

VERA CRUZ—Continued.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Horns	$89 00			$89 00
Indigo	6,648 05			6,648 05
Instruments	1,586 82			1,586 82
Istle	1,742 45			1,742 45
Jalap	3,729 44	$2,108 72		5,838 16
Marble	1,206 00	5,235 71	$1,426 50	7,862 21
Merchandise	177 04	7,741 30	697 01	8,615 35
Ore	236 83	66,679 53	37,255 60	104,171 96
Pulque	58 00			58 00
Pineapples	155, 63			155 63
Prints	100 00	100 00		200 00
Rice			1,500 00	1,500 00
Rubber	7,341 32	27,413 43	11,396 50	46,151 25
Saffron			1,033 20	1,033 20
Segars	1,319 04	1,706 62	2,177 91	5,203 57
Sugar	10,678 15	4,550 00		15,228 15
Tobacco	12 94		3,583 76	3,596 70
Vanilla		12,436 62	24,765 02	37,201 64
Total	908,358 79	872,671 52	484,496 07	2,265,526 38

DECLARED EXPORTS OF CENTRAL AMERICA FOR THE UNITED STATES.

Exports declared for the United States during the three quarters ending September 30, 1886

[Compiled from the consular returns by C. W. Seawell.]

BELIZE.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Bird-skins			$34 00	$34 00
Canned turtle soup		$10 50		10 50
Coffee	$485 00			485 00
Copper, old	72 33		146 30	218 63
Fruit and nuts	17,819 08	33,271 93	31,356 48	82,447 49
Hides and skins	2,029 26	570 50	2,444 05	5,043 81
Logwood	706 50			706 50
Mahogany		535 00		535 00
Yellow metal	74 60			74 60
Tuna gum	1,820 25		471 18	2,291 43
Rubber	28,650 08	10,799 94	9,689 35	49,139 37
Sarsaparilla	2,195 48	2,624 46	1,400 70	6,220 64
Sponges	1,119 97	485 03	662 49	2,267 49
Sugar	1,907 46	11,241 43	4,602 26	17,751 15
Telsea (stuffed mattresses)	9 80			9 80
Total	56,889 81	59,538 79	50,806 81	167,235 41

PORT LIMON.

Bananas			$15,320 28	$15,320 28
Hides			4,846 90	4,846 90
Plants			50 00	50 00
Rubber			1,511 65	1,511 65
Miscellaneous			250 00	250 00
Total			21,978 83	21,978 83

Exports declared for the United States, &c.—Continued.

PUNTA ARENAS.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Miscellaneous			$2,527 28	$2,527 28
Total			2,527 28	2,527 28

CHAMPERICO.

Beans	$21 48			$21 48
Cocoa	37 60			37 60
Coffee	394,222 05	$158,808 01	$3,618 12	556,648 18
Deer-skins	140 45	1,061 42	7,651 36	8,853 23
Hides, dry	5,589 60	9,112 32	1,895 76	16,597 68
Lead	240 00			240 00
Red pepper	60			60
Rubber	864 48	722 40	98 20	1,685 08
Sarsaparilla		Val. unknown		
Telegraph material	Val. unknown	....do		
Total	401,116 26	169,704 15	13,258 44	584,078 85

GUATEMALA CITY.

Cochineal			$1,602 37	$1,602 37
Coffee	$16,455 97	$64,557 27	25,272 00	106,285 24
Deer-skins	629 05	1,199 50	490 69	2,319 24
Goat-skins	49 22	134 27		183 49
Hides	12,154 43	14,446 29	10,901 91	37,502 63
Rubber	14,718 95	8,736 55	21,427 00	44,882 50
Sugar	10,356 54	12,492 32	2,874 03	26,722 89
Total	54,364 16	102,566 20	62 568 00	219,498 36

LIVINGSTON.

Bananas	$271 80	$7,985 00	$7,089 49	$15,346 29
Cashew nuts	23 65			23 65
Cajoon nuts	12 31		86	13 17
Cocoanuts	30 50			30 50
Coffee	33,108 76	86,736 00	28,754 36	148,599 12
Deer-skins	100 62	41 00	198 98	340 60
Hides	8,031 92	8,183 00	8,746 67	9,961 59
Mahogany	402 79			402 79
Personal effects			1,103 50	1,103 50
Plants		78 00	469 38	542 38
Rubber	2,389 38	2,063 00	1,920 68	6,373 06
Sarsaparilla	9,018 58	10,521 00	10,752 75	31,192 33
Specimens		2 00		2 00
Miscellaneous		65 00	93 71	158 71
Total	49,290 31	110,669 00	54,130 38	214,089 69

SAN JOSÉ DE GUATEMALA.

Antique curiosities		$640 66		$640 66
Calf-skins		33 76		33 76
Coffee	$91,027 08	124,348 50	$2,989 79	218,365 37
Deer-skins	140 80	378 83	291 50	811 13
Hides, dry	1,744 26	2,429 09	2,056 86	6,230 21
Pineapples		16 97		16 97
Plants		70 18		70 18
Personal effects			81 41	81 41
Rubber	6,910 33	4,368 68	9,918 13	21,197 14
Sarsaparilla		636 17	22 13	658 30
Skins, goat	21 85			21 85
Sugar	91,633 09	50,816 11	12,909 93	154,859 13
Sweetmeats and green fruit			26 88	26 88
Total	191,477 41	183,238 95	28,296 63	403,012 99

Exports declared for the United States, &c.—Continued.

AMAPALA.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Deer-skins			$768 66	$768 66
Hides			5,959 51	5,959 51
Ore			2,978 30	2,978 30
Rubber			106 00	106 00
Total			9,812 47	9,812 47

PUERTO CORTEZ.

Deer-skins			$1,900 05	$1,900 05
Fruit			46,063 43	46,063 43
Hats			8 52	8 52
Hides			3,618 29	3,618 29
Mahogany and cedar			1,109 04	1,109 04
Ore			Unknown	Unknown
Rubber			3,730 03	3,730 03
Sarsaparilla			7,309 72	7,309 72
Tobacco			284 30	284 30
Total			64,043 38	64,043 38

RUATAN AND TRUXILLO.

Bananas	$83,710 50	$64,643 25		$153,353 75
Cocoanuts	21,889 72	15,073 50	$27,618 80	64,582 02
Coin, gold and silver	7,870 00			7,870 00
Hides and skins	9,204 90	16,016 68	7,927 62	33,149 20
Horse	20 00			20 00
Mahogany	9,891 82			9,891 82
Old metal		18 00	67 50	85 50
Palm-leaf hats	186 00	36 75		222 75
Plantains, pineapples, oranges, &c	6,537 50	4,645 59		11,183 09
Rubber	11,875 00	10,771 58	3,642 75	25,789 33
Sarsaparilla	13,847 46	10,256 16	12,329 42	36,433 04
Shells:				
Conch	360 00			360 00
Turtle	21 00	9 00		30 00
Tropical fruit			53,475 00	53,475 00
Total	169,913 90	121,470 51	105,061 09	396,445 50

UTILLA.

Fruit			$33,749 45	$33,749 45

BLUEFIELDS.

Bananas	$6,000 02	$10,017 60	$25,964 50	$41,981 52
Cocoanuts	20 00	903 10	3,267 68	4,270 78
Deer-skins	25 00	68 67	86 25	179 92
Hides	348 33	196 42	156 24	700 99
Ivory nuts		1,302 00		1,302 00
Rubber	82,498 05	47,006 05	65,569 61	195,073 71
Tortoise-shell			1,127 94	1,127 94
Tuna*	472 56	161 00		633 56
Miscellaneous		460 00		460 00
Total	89,363 96	60,204 24	96,162 22	245,730 42

* Trees from which tuna is obtained abound on this coast from Monkey Point to the Capo. Its exportation is for experiment, to take the place of rubber. At present, as it sells for only 15 cents per pound, there is no profit on its exportation.

Exports declared for the United States, &c.—Continued.

CORINTO.

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Cedar wood		$7,920 00	$152 39	$8,072 39
Coffee	$30,319 16	92,791 02	38,766 18	161,876 36
Deer-skins	2,484 11	4,498 99	5,396 41	12,374 51
Fustic		11,736 10	7,302 50	19,038 60
Hammocks			34 90	34 90
Hides	16,215 78	25,961 98	12,417 35	54,595 06
Ink-core	36 00			36 00
Ink			14 00	14 00
Rubber	2,727 45	3,268 65	13,092 06	19,088 16
Total	51,782 50	146,171 69	77,175 79	275,129 98

SAN JUAN DEL NORTE.

Coffee		$27 22	$74,338 20	$74,365 42
Cocoanuts		2,170 04	1,721 25	3,891 29
Deer-skins	$2,774 35	1,632 97	6,753 81	11,161 13
Hides	16,157 24	5,304 37	22,820 65	44,282 26
Indigo	1,486 23			1,486 23
Rubber	75,968 00	71,333 98	64,306 50	211,608 48
Tuna			27 75	27 75
Total	96,385 82	80,468 53	169,968 16	346,822 51

SAN SALVADOR.

Balsam, Peruvian		$1,146 25		$1,146 25
Coffee		36,041 80		36,041 80
Hides		1,315 68		1,315 68
Rubber		68 20		68 20
Skins, deer		64 25		64 25
Sugar		1,260 00		1,260 00
Total		39,896 18		39,896 18

SONSONATE.

Balsam		$625 00		$625 00
Coffee		422,494 50	$3,885 00	426,379 50
Deer-skins		259 00	568 25	827 25
Hides		411 00	157 50	568 50
Indigo		1,438 22		1,438 22
Iron ore			50 00	50 00
Mascabado		1,813 06		1,813 06
Rubber		326 20	245 00	571 20
Total		427,361 98	4,905 75	432,267 73

LA LIBERTAD.

Balsam	$1,501 30	$484 00	$291 56	$2,276 86
Deer-skins	54 48	134 50	159 25	348 23
Coffee	107,782 66	103,123 70	19,296 60	230,202 96
Hides	3,172 73	1,613 04	898 92	5,684 69
Indigo	1,000 00	300 00		1,300 00
Rubber	340 97	132 00	300 00	772 97
Sugar	24,796 83	2,075 00	65,205 00	92,076 83
Total	138,648 97	107,862 24	86,151 33	332,662 54

Exports declared for the United States, &c.—Continued.

LA UNION

Articles.	Quarter ending—			Total.
	March 31.	June 30.	September 30.	
Coffee	$7,108 70	$11,205 10	$927 00	$19,240 80
Deer-skins	177 20	589 50	615 60	1,382 40
Gold (American)	2,000 00	.....	1,590 00	3,590 00
Hides, dry	3,707 13	5,747 51	3,377 73	12,832 37
Indigo	7,500 00	.....	.....	7,500 00
Mafiañones' seeds	.....	96 36	.....	96 36
Rubber	2,471 70	2,354 10	5,039 10	9,864 90
Silver	.....	703 00	.....	703 00
Silver ore	1,000 00	1,200 00	150 00	2,350 00
Total	23,964 83	21,895 57	11,699 43	57,559 83

PACKING GOODS FOR EXPORT.

REPORT OF CONSUL STRICKLAND, OF GORÉE-DAKAR.

Before American merchants can fairly compete with Europeans in the opening markets of the world, they must learn that in some countries superior packing is held to be a factor of prime importance, that in places where good coopers are not to be had and there are but few practical laborers, eggshell packages, no matter how choice the goods they contain, are sure to be discriminated against. And this American fault in packing is the more to be regretted, because it is precisely in those countries where the best of packing is of necessity recognized that the profits are always the greatest.

Among the articles which Americans are interested to export abroad, but which frequently are not packed sufficiently well for the purpose, flour may be instanced as deserving perhaps the first notice.

Almost all newly-developed-countries consume flour largely, and as payment in such countries is usually made in raw products which Americans require for manufacturing purposes, there is a double motive for dealing with them direct, which dealing Americans should not forego by refusing to take into account the necessities of their situation. Now, in such countries where teams are always scarce, such articles as flour have sometimes to be transported quite long distances by rolling, with the result, in case the flour packages are American, of having a continuous white trail of flour all along the route, interspersed here and there with heaps of it mixed with dirt where heads have fallen out, so that the condition in which a shipment of American flour finally reaches the warehouse of the foreign buyer is often such as to excite his disgust if not his indignation.

The buyers of flour in intertropical countries are seldom men who like making up for omissions of shippers by coopering barrels themselves under a broiling sun, and the upshot of the matter is they give their preference to foreign flour because the packages are better, only dealing with Americans enough to keep their European agents from imposing high prices on them.

There is also much prejudice against American flour-barrels because they do not sufficiently exclude the air, which causes the flour to spoil quickly.

French flour-barrels, besides being lined with paper, have thirty hoops each, and the heads well secured. Such packages preserve their contents against even wet, and other things being equal it would be indeed surprising if foreign flour thus protected were not preferred in every competitive market. American flour-barrels for export should have at least sixteen well-driven hoops each; the chines should be well protected and the heads well secured against falling out. Paper lining is undoubtedly an advantage, but with the barrels made strong and tight other refinements may not be considered so necessary.

Cotton goods from America are usually in packages twice too large, and very illy fastened together. Such packages are also in general quite insufficient to protect their contents against wet, or even against a degree of dampness which does not amount to wet. Great unwieldy cases are not proof against any of the rough incidents which happen on voyages to countries where the facilities for handling and caring for such packages have not been developed.

No match-box-built American case containing 2,000 yards of prints could be landed safely from a canoe after passing through a heavy surf, nor would the security be much greater if such a package had to be transported from a boat on the heads of natives to the top of a muddy river bank.

Packages prepared in Europe are usually constructed with a view measurably to guard their contents against all accidents of the nature described, against slight showers even, and I have seen goods so nicely enveloped in oiled paper and other coverings as to be safe if immersed a considerable time in water.

American cottons are hardly packed well enough to protect them from the ordinary damp and chafing of a vessel's hold, and for the numerous exigencies which are sure to arise after such goods have been transported to foreign half-civilized shores no special provision is made.

It is not necessary, I think, that I should go more into this subject of packing goods for export, although it appears one of great importance and worthy of immediate attention.

The time is certainly at hand when the whole uncivilized world will afford much the best markets for many of the articles which Americans are already anxious, but not well prepared to export, and if they do not occupy their ground shortly they will at length have to do so under the overshadowing plants of a fierce European competition. In England already, not only the shippers, but the manufacturers and bankers who back them, have a care for their goods until they reach the consumers near the headwaters of the Senegal, the Gambia, the Niger, the Congo, and the Zambesi. Nothing appears neglected by them which has the least tendency to insure success, while Americans, although seemingly anxious to export, are yet slow in adopting the means which in the face of brisk competition make exportation possible.

PETER STRICKLAND,
Consul.

UNITED STATES CONSULATE,
Gorée-Dakar, October 27, 1886.

WAGES AND PRICES

[From official

Average rate of wages in each provincial dis

[In this table p. d. = per day; p. w. = per week:

Description of labor.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.
(1) *Agricultural labor.*				
Farm laborers:				
With board	20*s.* p. w.	20*s.* p. w	20*s.* p. w.	15*s.* to 25*s.* p. w.
Without board			7*s.* p. d	
Plowmen:				
With board	20*s.* p. w	20*s.* to 25*s.* p.w.	20*s.* p. w	20*s.* to 25*s.* p. w
Without board			7 *s.* p. d.	5*s.* to 8*s.* p. d.
Reapers:				
With board	(All done by machinery.)	40*s.* p. w., 13*s.* p. acre.	20*s.* p. w	42*s.* p.w., 7*s.*p. d
Without board			7*s.* p. d	1*s.* p. h
Mowers:				
With board	(All done by machinery.)	7*s.* 6*d.* p. acre	20*s.* p. w	42*s.* to 50 *s.* p.w.
Without board			8*s.* p. d	9*s.* p. d
Threshers:				
With board	(All done by machinery.)	5*d.* p. bushel	20*s.* p. w	7*s.* p. d., 1*s.* p. h.
Without board			8*s.* p. d	
(2) *Pastoral labor.*				
Shepherds, with board	£35 to £50 p. y.	£50 to £60 p. y.	£52 p. y	£50 to £70 p. y.
Stock-keepers, with board	£45 to £55 p. y.	£50 to £70 p. y.	£52 p. y	£50 to £65 p. y.
Hut-keepers, with board	£25 p. y		£40 p. y	£50 to £60 p. y.
Station laborers:				
With board	20*s.* p. y	20*s.* p. w	20*s.* p. w	15*s.* to 25*s.* p. w.
Without board	6*s.* p. d		8*s.* p. d	6*s.* to 8*s.* p. d.
Sheep-washers:				
With board	8*s.* p. d		6*s.* p. d	5*s.* to 7*s.* p. d.
Without board	10*s.* p. d	7*s.* p. d	8*s.* p. d	7*s.* to 9*s.* p. d.
Shearers, with board	15*s.* to 20*s.* p. 100 sheep.	18*s.* p. 100 sheep.	20*s.* p. 100 sheep.	15*s.* to 22*s.* 6*d.* p. 100 sheep.
Men cooks on stations, with board	25*s.* p. w	20*s.* p. w	20*s.* p. w.	20*s.* to 25*s.* p. w.
(3) *Artisan labor (per day, without board).*				
Masons	11*s*	10*s*	10*s*	10*s.* to 12*s*
Plasterers	11*s*	10*s*	10*s*	8*s.* to 12*s*
Bricklayers	10*s.* to 11*s.*	10*s.* to 12*s*	10*s*	9*s.* to 11*s*
Carpenters	9*s* to 10*s*	8*s.* to 10*s*	12*s*	9*s.* to 10*s*
Smiths	10*s*	8*s.* to 10*s*	10*s*	8*s.* to 10*s*
Wheelwrights	10*s*	8*s.* to 10*s*	10*s*	8*s.* to 11*s*
Shipwrights	10*s*		12*s*	8*s.* to 12*s*
Plumbers	10*s*	8*s.* to 10*s*	10*s*	9*s.* to 10*s*
Painters	8*s.* to 10*s*	7*s.* to 10*s*	10*s*	7*s.* to 10*s*
Saddlers	8*s.* to 10*s*	10*s*	12*s*	6*s.* to 10*s*
Shoemakers	7*s.* 6*d.* to 8*s*	8*s*	9*s*	6*s.* to 9*s.*
Coopers	7*s*	10*s.* to 12*s*	10*s*	7*s.* to 12*s*
Watchmakers	8*s* to 10*s*	10*s*	10*s*	10*s.* to 11*s*
(4) *Servants.*				
Married couples, without family, with board.	£70 p. y	£60 to £70 p. y.	£50 p. y	£70 to £90 p. y.
Married couples, with family, with board.	£70 p. y	£40 to £60 p. y.	£45 p. y	£50 to £80 p. y
Grooms, with board	20*s.* to 25*s.* p. w.	20*s.* p. w	20*s.* p. w	20*s.* to 30*s.* p. w.
Gardeners:				
With board	20*s.* p. w	20*s.* p. w	20*s.* p. w	20*s.* to 30*s.* p. w.
Without board		8*s.* p. d		
Cooks, with board	20*s.* p. w	20*s.* to 25*s.* p. w.	20*s.* p. w	15*s.* to 30*s.* p. w.
Laundresses, with board	12*s.* to 20*s.* p. w.	20*s.* to 25*s.* p. w.	15*s.* p. w	10*s.* to 15*s.* p. w.
General house servants	10*s.* to 11*s.* p. w.	10*s.* to 15*s.* p. w.	10*s.* p. w	10*s.* to 20*s.* p. w.
Housemaids, with board	12*s.* p. w	8*s.* to 15*s.* p. w	10*s.* p. w	10*s.* to 2*s.* p. w.
Nursemaids, with board	6*s.* to 7*s.* p. w	4*s.* to 10*s.* p. w	6*s.* p. w	5*s.* to 12*s.* p. w
Needle-women:				
With board	12*s.* to 16*s.* p. w.	15*s.* p. w	25*s.* p. w	17*s.* 6*d.* to 24*s* p.w.
Without board		2*s.* 6*d.* to 5*s.* p. d.	5*s.* p. d	3*s.* 6*d.* to 4*s.* p. d.

* The highest prices are those prevailing only in a

IN NEW ZEALAND.

returns.]

trict of New Zealand during the year 1885.

p.n. = per hour; p. y = per year; p. m. = per month.]

Marlborough.	Nelson.	Westland (gold field.)	Canterbury	Otago* (part gold field.)
20*s.* p. w	20*s.* to 25*s.* p. w ...	25*s.* p. w	17*s.* to 20*s.* p. w ...	15*s.* to 25*s* p. w.
8*s.* p. d.....	6*s.* p. d	9*s.* p. d	.....	5*s.* to 8*s.* p. d.
25*s.* p. w.....	.....	30*s.* p. w	20*s.* to 22*s.* 6*d.* p.w .	17*s.* 6*d.* to 25*s.* p.w.
8*s.* p. acre	.....	10*s.* p. d	.....	8*s.* to 9*s.* p. d. [p. acre.
.....	30*s.* p. w	.....	40*s.* to 48*s.* p. w...	25*s.* to 50*s.* p. w., 7*s.*
.....	6*s.* to 7*s.* p. d.....	.....	.....	6*s.* to 10*s.* p. d. [to 7*s.* 6*d.* p. acre.
35*s.* p. w	.....	.....	40*s.* to 48*s.* p. w...	25*s.* to 50*s.* p. w., 6*s.*
10*s.* p. d., 20*s.* p. acre.	.....	.....	.....	7*s.* to 10*s.* p. d.
.....	.....	.....	11*s.* to 13*s.* p. 1,000 bushels.	30*s.* to 50*s.* p. w.
.....	.....	.....	.....	7*s.* to 10*s.* p. d.
£60 p. y.....	£60 p. y.....	.....	£65 to £80 p. y....	£40 to £65 p. y.
£60 p. y.....	30*s.* p.w. (with dogs)	.....	£50 p. y.....	£40 to £65 p. y.
£50 p. y.....	£50 p. y.....	.....	.....	£40 to £52 p. y.
20*s.* p. w.....	25*s.* to 30*s.* p. w....	.....	15*s.* to 20*s.* p. w	15*s.* to 25*s.* p. w.
.....	.....	.....	.....	
7*s.* p. d	.....	.....	.....	6*s.* p. d.
8*s.* p. d	.....	.....	4*s.* to 6*s.* p. d.....	7*s.* p. d.
20*s.* p. 100 sheep.....	17*s.* 6*d.* p. 100 sheep.	.....	15*s.* to 17*s.* 6*d.* p. 100 sheep.	12*s.* to 17*s.* p. 100 sheep.
25*s.* p. w.....	20*s.* p. w.....	.....	25*s.* to 30*s.* p. w	15*s.* to 30*s.* p. w.
15*s*.....	12*s*.....	16*s*.....	10*s.* to 12*s*	10*s.* to 14*s.*
12*s*.....	12*s*.....	16*s*.....	11*s.* to 12*s*	10*s.* to 15*s.*
12*s*.....	12*s*.....	16*s*.....	10*s.* to 12*s*	10*s.* to 14*s.*
10*s*.....	10*s*.....	14*s*.....	9*s.* to 10*s*	8*s.* to 14*s.*
10*s*.....	9*s*.....	14*s*.....	9*s.* to 12*s*	9*s.* to 12*s.*
10*s*	10*s*.....	14*s*.....	10*s.* to 12*s*	9*s.* to 14*s.*
10*s*.....	12*s*.....	14*s*.....	10*s.* to 13*s*	9*s.* to 12*s.*
12*s*.....	12*s*.....	14*s*.....	10*s.* to 12*s*	9*s.* to 12*s.*
10*s*.....	9*s*.....	12*s*.....	9*s.* to 11*s*	8*s.* to 12*s.*
10*s*.....	9*s*.....	12*s*.....	9*s.* to 12*s*	8*s.* to 14*s.*
10*s*.....	10*s*.....	12*s*	8*s.* to 10*s*	8*s.* to 10*s.*
.....	10*s*.....	12*s*.....	9*s.* to 18*s*.....	8*s.* to 12*s.*
10*s*.....	10*s*.....	15*s*.....	10*s.* to 16*s*.....	10*s.* to 15*s.*
£80 p. y.....	£80 p. y.....	£80.....	£60 to £75 p. y ...	£60 to £90 p. y.
£80 p. y.....	£80 p. y.....	.....	£60 p. y.....	£52 to £75 p. y.
25*s.* p. w.....	25*s.* p. w.....	30*s.* p. w.....	15*s.* to 25*s.* p. w....	20*s.* *so* 30*s.* p. w.
30*s.* p. w.....	.....	.....	20*s.* to 22*s.* 6*d.* p. w.	25*s.* to 38*s.* p. w.
8*s.* p. d	10*s.* p. d	12*s.* p. d	8*s.* p. d	7*s.* to 10*s.* p. d.
15*s.* to 30*s.* p. w.....	14*s.* p. w.....	30*s.* p. w.....	15*s.* to 20*s.* p. w....	15*s.* to 25*s.* p. w.
15*s.* p. w.....	15*s.* p. w.....	20*s.* p. w.....	.....	12*s* to 20*s.* p. w.
10*s.* p. w.....	12*s.* p. w.....	18*s.* p. w.....	7*s.* to 12*s.* p. w.....	8*s.* to 15*s.* p. w.
10*s.* p. w.....	14*s.* p. w.....	18*s.* p. w.....	12*s.* to 15*s.* p. w	8*s.* to 15*s.* p. w.
5*s.* p. w.....	6*s.* p. w.....	10*s.* p. w.....	7*s.* to 10*s.* p. w	5*s.* to 10*s.* p. w.
12*s.* p. w.....	15*s.* p. w.....	20*s.* p. w.....	15*s.* p. w.....	12*s.* to 20*s.* p. w.
.....	.....	6*s.* p. d	.....	

portion of the gold fields of the provincial district.

Average rate of wages in each provincial district

Description of labor.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.
(5) *Miscellaneous.*				
General laborers, without board	7*s.* to 7*s.* 6*d* p. d	6*s.* to 7*s.* p. d	8*s.* p. d	6*s.* to 8*s.* p. d
Stone-breakers, without board	4*s.* 6*d.* p. c. yd	3*s.* 6*d.* to 4*s.* p. c. yd.	2*s.* 6*d.* p. c. yd.	
Seamen, with board	£5 p. m		£6 p. m	£5 to £6 p. m
Miners, without board	8*s.* to 8*s.* 6*d.* p. d			9*s.* to 10*s.* p. d
Engine-drivers, without board	50*s.* p. w	45*s.* p. w	9*s.* p. d	8*s.* to 12*s.* p. d
Tailors, without board	50*s.* p. w	70*s.* p. w	8*s.* p. d	50*s.* p. w
Tailoresses, without board	18*s.* p. w	20*s.* p. w	4*s.* p. d	12*s.* to 40*s.* p. w.
Dressmakers, without board	12*s.* p. w	12*s.* 6*d.* p. w	8*s.* p. d	15*s.* to 60*s.* p. w.
Milliners, without board	20*s.* p. w	40*s.* p. w	8*s.* p. d	30*s.* to 60*s.* p. w.
Machinists, without board	15*s.* p. w	20*s.* p. w		25*s.* p. w
Storekeepers, without board	40*s.* p. w	50*s.* to 60*s.* p. w		50*s.* to 55*s.* p. w.
Storekeepers' assistants, without board.	40*s.* p. w	20*s.* to 40*s.* p. w	8*s.* p. d	30*s.* to 60*s.* p. w.
Drapers' assistants, without board.	40*s.* p. w	20*s.* to 60*s.* p. w	8*s.* p. d	40*s.* to 80*s.* p. w.
Grocers' assistants, without board.	40*s.* p. w	20*s.* to 45*s.* p. w	7*s.* p. d	30*s.* to 60*s.* p. w.
Butchers, without board	45*s.* p. w	50*s.* to 60*s.* p. w	9*s.* p. d	40*s.* to 50*s.* p. w.
Bakers, without board	45*s.* p. w	50*s.* to 60*s.* p. w	8*s.* p. d	30*s.* to 50*s.* p. w.
Storemen, without board	40*s.* p. w	40*s.* p. w	8*s.* p. d	40*s.* to 60*s.* p. w.
Compositors, without board	50*s.* p. w	50*s.* p. w	10*s.* p. d	50*s.* to 60*s.* p. w.
PRICES.				
Agricultural produce:				
Wheat per bushel	3*s.* 9*d.* to 4*s*	3*s.* 6*d.* to 5*s*	3*s.* 6*d*	3*s.* to 4*s*
Barley do	3*s.* to 3*s.* 6*d*	2*s.* 6*d.* to 5*s.* 6*d*	2*s.* 6*d*	3*s.* to 3*s.* 6*d*
Oats do	2*s.* 9*d.* to 3*s.* 3*d*	2*s.* 3*d.* to 3*s*	2*s.* 6*d*	2*s.* 1*d.* to 3*s*
Maize do	3*s.* 9*d.* to 4*s*	4*s*	3*s.* 9*d*	3*s.* 6*d.* to 4*s.* 6*d*
Bran do	1*s.* 3*d.* to 1*s.* 6*d*	10*d.* to 1*s.* 6*d*	1*s*	9*d.* to 1*s*
Hay per ton	£4	£3	£4	£3 10*s.* to £4
Flour and bread:	[10*s.*			
Flour, wholesale, per ton of 2,000 pounds.	£10 10*s.* to £11	£9 10*s.* to £10	£9 15*s*	£9 to £10 10*s*
Flour, retail, per bag of 50 pounds.	6*s.* 6*d*	6*s*	6*s*	5*s.* 6*d.* to 7*s*
Bread, retail, per 4-pound loaf	7*d*	7*d.* to 8*d*	6*d*	5*d.* to 7*d*
Live stock and meat:				
Horses—				
Draft, per head	£22 10*s.* to £30	£15 to £20	£26	£15 to £30
Saddle and harness, per head.	£10	£5 to £10	£12	£5 to £20
Cattle—				
Fat per head	£7 10*s*	£4 10*s.* to £5 5*s*	£8	£6 to £7
Milch cows do	£5 10*s.* to £6	£4 10*s.* to £5	£5	£4 10*s.* to £8
Sheep, fat do	10*s.* to 12*s*	8*s.* to 10*s*	12*s*	8*s.* to 10*s*
Lambs, fat do	8*s.* to 9*s*	5*s.* 6*d.* to 6*s*	8*s*	5*s.* to 7*s.* 6*d*
Butchers' meat—				
Beef per pound	4*d.* to 4½*d*	2*d.* to 5*d*	5*d*	4*d.* to 5*d*
Mutton do	3*d.* to 4*d*	2*d.* to 4*d*	3*d*	3*d.* to 4*d*
Veal, per pound	4*d.* to 5*d*	3*d.* to 5*d*	6*d*	5*d.* to 7*d*
Pork do	6*d*	3*d.* to 5*d*	6*d*	4*d.* to 7*d*
Lamb do	6*d*	3*d.* to 5*d*	7*d*	4*d.* to 6*d.*, or 3*s.* 6*d.* per quarter.
Dairy produce:				
Butter:				
Fresh per pound	10*d.* to 1*s*	9*d.* to 10*d*	1*s*	9*d.* to 1*s*
Salt do	10*d.* to 11*d*	8*d.* to 9*d*	9*d*	8*d.* to 10*d*
Cheese:				
Colonial do	6*d.* to 8*d*	8*d*	6½*d*	5½*d.* to 8*d*
Imported do	10*d.* to 1*s.* 2*d*		11*d*	8*d.* to 10*d*
Milk per quart	3*d.* to 4*d*	3*d.* to 4*d*	4*d*	3*d.* to 4*d*
Farm-yard produce:				
Geese per pair	8*s.* to 9*s*	8*s*	8*s*	5*s.* 6*d.* to 9*s*
Ducks do	3*s.* 6*d.* to 4*s*	4*s.* to 5*s*	5*s*	3*s.* 6*d.* to 4*s.* 6*d*
Fowls do	3*s.* to 4*s*	3*s.* 6*d*	5*s*	2*s.* 6*d.* to 4*s.* 6*d*
Turkeys per head	4*s.* to 4*s.* 6*s*	3*s.* 6*d.* to 6*s*	6*s*	3*s.* 6*d.* to 6*s*
Bacon per pound	7*d.* to 8*d*	9*d*	8½*d*	7½*d.* to 10*d*
Ham do	9*d*	10*d*	10*d*	9*d.* to 1*s*
Eggs per dozen	1*s*	8*d.* to 10*d*	1*s.* 3*d*	1*s.* to 1*s.* 4*d*
Garden produce:				
Potatoes, wholesale, per ton	£4 to £4 10*s*	£2 10*s.* to £4	£3	£3 to £7
Potatoes, retail per cwt	5*s.* to 6*s*	3*s.* 6*d.* to 6*s*	3*s.* 9*d*	5*s.* 6*d.* to 9*s*
Onions per pound	1½*d.* to 3*d*	3*d*	2*d*	1*d.* to 4*d*
Carrots per doz. bunches	1*s.* 4*d.* to 2*s*	1*s.* to 3*s*	2*s*	1*s.* to 3*s.* 3*d*
Turnips do	1*s.* 4*d.* to 2*s*	1*s.* to 3*s*	2*s*	1*s.* to 3*s.* 3*d*
Cabbages per dozen	1*s.* 8*d.* to 2*s*	1*s.* to 2*s*	1*s*	1*s.* 6*d.* to 2*s.* 6*d*

of New Zealand during the year 1885—Continued.

Marlborough.	Nelson.	Westland (gold field).	Canterbury.	Otago (part gold field).
8s. p. d	7s. to 8s. p. d.	10s. p. d	6s. to 7s. p. d.	6s. to 9s. p. d.
	2s. 6d. p. c. yd		2s. 6d. to 3s. p. c. yd.	2s. to 3s. 6d. p. c. yd
£6 p. m	£7 p. m	£5 p. m	£5 p. m	£4 10s. to £6 p. m.
9s. p. d	10s. p. d	10s. p. d		8s. to 10s. p. d.
12s. p. d	8s. p. d	15s. p. d	50s. p. w	30s. to 60s. p. w.
60s. p. w	8s. p. d	12s. p. d	45s. p. w	40s. to 60s. p. w.
35s. p. w	5s. p. d	8s. p. d	8s. to 6s. p. d	15s. to 35s. p. w.
25s. p. w	10s. to 15s. p. d	8s. p. d	15s. to 30s. pw	15s. to 30s. p. w.
35s. p. w	40s. to 60s. p. w	8s. p. d	18s. to 60s. p. w	15s. to 40s. p. w.
25s. p. w	12s. 6d. to 15s. p. w.		20s. to 40s. p. w	10s. to 30s. p. w.
50s. p. w	70s. p. w	60s. to 70s. p. w	20s. to 60s. p. w	40s. to 70s. p. w.
35s. p. w	40s. p. w	40s. to 50s. p. w	15s. to 40s. p. w	20s. to 50s. p. w.
50s. p. w	40s. to 70s. p. w	40s. to 50s. p. w	20s. to 60s. p. w	40s. to 60s. p. w.
40s. p. w	40s. to 70s. p. w	40s. to 50s. p. w	20s. to 60s. p. w	30s. to 50s. p. w.
60s. p. w	45s. p. w	40s. to 60s. p. w	50s. p. w	30s. to 60s. p. w.
50s. p. w	50s. p. w	60s. p. w	50s. p. w	40s. to 60s. p. w.
40s. p. w	48s. p. w	40s. to 60s. p. w	45s p. w	20s. to 60s. p. w.
60s. p. w	55s. p. w	70s. p. w	60s. p. w	50s. to 60s. p. w.
3s	3s. 6d	5s	2s. 8d. to 3s. 2d	3s. 2d. to 3s. 10d.
3s. 3d	3s. 3d		2s. 6d. to 3s	2s. 6d. to 3s. 6d.
2s. 3d	2s. 3d	3s. 6d	1s. 6d. to 2s	1s. 6d. to 2s. 6d.
3s. 6d			5s. 6d	4s. to 5s. 6d.
1s	1s	2s	8d. to 1s	10d. to 1s. 6d.
£4	£4	£6	£2 10s. to £2 15s	£2 to £3 15s.
£8 17s. 6d	£9	£13	£8	£7 10s. to £10.
5s. 6d	5s. 6d	7s	4s. 6d. to 4s. 9d	4s. 6d. to 6s. 6d.
6d	6d	7d	4d. to 4½ d	4½d. to 8d.
£32	£15 to £25	£25	£15 to £25	£18 to £40.
£15	£5 to £20	£20	£9 to £18	£5 to £20.
£6	£5 to £7	£10	£6 to £7	£6 to £10.
£7	£3 to £6	£8 10s	£6 to £6 10s	£5 to £7.
8s	10s	16s	8s. to 12s	6s. to 15s.
7s	7s. 6d	15s	6s. to 7s. 6d	5s. to 10s.
5d	6d	6d	4d. to 4½d	4d to 7d.
2½d	5d	6d	2d. to 2½d	3d. to 5d.
5d	6d	6d	4d. to 4½d	4d. to 6d
6d	6d	8d	5d. to 6d	5d. to 8d
6d	6d	4s. 6d. per quarter.	4d., or 2s. 6d. per quarter.	2½d. to 6d.
10d	10d	1s. 9d	9d. to 11d	8d. to 1s. 2d.
6d	9d	1s	6½d to 8d	7d. to 1s. 2d.
8d	9d	9d	4½d. to 5d	6d. to 8d.
1s. 3d	8d	1s. 8d	11d	9d. to 1s.
4d	5d	6d	3½d	3d. to 6d.
10s	6s. 6d	15s	5s. to 9s	7s. to 10s.
4s	4s. 6d	6s	3s. to 5s. 6d	4s. to 5s.
3s. 6d	3s. 6d	5s. 6d	2s. 6d. to 4s. 6d	3s. to 5s.
5s	4s	10s	7s. 6d. to 12s. 6d	4s. 6d. to 7s. 6d.
10d	9d	1s	8d. to 9d	7d. to 10d.
1s	10d	1s	10d	9d. to 1s. 1d.
1s	10d	2s	10d. to 1s	8d. to 1s. 4d.
£3 10s	£4	£5	£2 10s. to £6 10s	£3 10s. to £7.
6s	5s	6s	3s. 6d. to 7s	4s. 6d. to 9s.
3d	3d	4d	1½d	1½d. to 4d.
3s	3s		1s. 6d. to 3s	3d. to 3s.
3s	3s		1s. 6d. to 3s	3d. to 2s. 6d.
2s	3s	3s	1s. to 1s. 6d	1s. to 3s. 6d.

Average rate of wages in each provincial district

Description of labor.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.
(5) *Miscellaneous*—Continued.				
Miscellaneous articles:				
Tea ..... per pound..	2s. 3d. to 2s. 9d...	2s. to 3s	1s. 4d. to 2s. 6d.	2s. 6d. to 2s. 9d...
Coffee ..... do....	1s. 6d. to 1s. 9d...	1s. 6d. to 2s.....	1s. to 1s. 9d..	1s. 6d. to 1s. 9d...
Sugar ..... do....	4d	3½d. to 4d.....	3d. to 3½d....	3½d. to 4d.....
Rice ..... do....	3½d. to 4d	3½d. to 4d.....	3d	3½d. to 4d.....
Salt ..... do....	1d	1d. to 1½d.....	½d. to 1d.....	1d. to 2d .....
Soap ..... per cwt..	15s. to 28s	20s. to 22s	12s. to 30s...	20s. to 21s.....
Candles ..... per pound..	10d. to 1s.....	10d. to 1s.....	6½d. to 10d...	9d. to 1s .....
Tobacco ..... do....	5s. 6d. to 6s.....	6s.....	5s. to 6s.....	6s. to 6s. 6d.....
Coals ..... per ton..	25s.....	50s.....	30s.....	25s. to 50s.....
Firewood ..... per cord..	35s.....	17s. 6d. to 20s	40s.....	24s. to 35s.....
Beer, wine, and spirits:				
Beer—				
Colonial ..... per hhd..	£4 13s. to £4 17s. [6d.	£5.....	£5 10s	£4 10s. to £5....
English, bottled, per doz. quarts.	18s. to 21s	16s.....	18s.....	18s. to 15s .....
Brandy ..... per gallon..	24s. to 36s	26s. to 30s	26s. 6d	24s. to 30s .....
Rum ..... do....	24s. to 30s	24s. to 26s	21s.....	22s. to 26s .....
Whisky ..... do....	24s. to 26s	26s. to 30s	25s.....	22s. 6d to 28s ....
Gin ..... do....	24s. to 36s	26s. to 30s	19s.....	19s. to 24s .....
Wine:				
Australian ..... do....	15s. to 24s	8s. to 22s	12s. 6d	12s. to 20s .....
European ..... do....	18s. to 32s	22s. to 30s	20s.....	18s. to 24s .....

of New Zealand during the year 1885—Continued.

Marlborough.	Nelson.	Westland (gold field).	Canterbury.	Otago (part gold field).
3*s*.	2*s*. 6*d*.	2*s*. 6*d*.	2*s*. to 2*s*. 4*d*.	1*s*. 9*d*. to 3*s*.
1*s*. 9*d*.	1*s*. 8*d*.	2*s*.	1*s*. 6*d*. to 1*s*. 8*d*.	1*s*. 8*d*. to 2*s*. 6*d*.
3½*d*. to 6*d*.	3½*d*.	6*d*.	3½*d*.	3*d*. to 5*d*.
3½*d*.	4*d*.	4½*d*.	2½*d*. to 3*d*.	3*d*. to 5*d*.
1½*d*.	1*d*.	2*d*.	1*d*.	1*d*. to 2*d*.
30*s*.	28*s*.	22*s*. 6*d*.	19*s*. to 21*s*.	16*s*. to 28*s*.
11*d*.	10*d*.	1*s*.	9*d*.	9*d*. to 1*s*.
6*s*.	6*s*. 6*d*.	7*s*.	5*s*. 6*d*. to 5*s*. 8*d*.	5*s*. 6*d*. to 7*s*.
40*s*.	27*s*. 6*d*.	32*s*. 6*d*.	25*s*. to 38*s*.	22*s*. to 40*s*.
30*s*.	24*s*.	35*s*.	35*s*. to 50*s*.	14*s*. to 32*s*. 6*d*.
£5	£14 10*s*.	£5 10*s*.	£4 2*s*. 6*d*. to £4 10*s*.	£3 15*s*. to £6.
14*s*.	14*s*.	16*s*.	12*s*. to 15*s*.	10*s*. to 16*s*. 6*d*.
27*s*.	24*s*.	25*s*.	26*s*. to 30*s*.	24*s*. to 30*s*.
24*s*.	22*s*. 6*d*.	26*s*.	22*s*. to 30*s*.	22*s*. 6*d*. to 25*s*.
27*s*.	28*s*.	25*s*.	25*s*. to 30*s*.	22*s*. to 28*s*.
22*s*.	17*s*.	25*s*.	20*s*.	19*s*. to 24*s*.
16*s*. to 18*s*.	12*s*.	15*s*.	14*s*. to 16*s*.	14*s*. to 18*s*.
14*s*. to 16*s*.	15*s*.	22*s*.	18*s*.	18*s*. to 30*s*.

NOTES.

Trade of Beirut with the United States.—Consul Erhard Bissinger, of Beirut, under date of October 12, 1886, writes as follows:

The growth of Syria's export trade to the United States has been extraordinary, notably from the port of Beirut, which amounted to $279,070.37 during the quarter ending September 30, 1886, a sum unprecedented in the history of the Beirut consulate.

While any increase in the trade relations between the two countries must be most gratifying to our people, it is to be much regretted that it is not more reciprocal in its nature, for the direct import from the United States to this port within the same quarter have been nil, and it is to be hoped that our people will not allow the trade balance with Syria to remain long against them without making some efforts to change the relations.

Comparative list of the exports from the port of Beirut to the United States during the periods mentioned here below.

Quarter ending September 30—	Value.	Quarter ending September 30—	Value.
1886	$279,070 37	1874	458 01
1885	90,192 78	1873	765 24
1884	25,086 06	1872	217,209 11
1883	27,181 44	1871	88,340 80
1882	196,742 36	1870	64,486 38
1881	169,550 00	1869	45,461 26
1880	248,100 00	1868	34,917 00
1879	54,153 56	1867	356 84
1878	4,400 00	1866	60,281 83
1877	5,356 61	1865	58,868 26
1876	481 36	1862	43,218 61
1875	3,776 89		

Tariff of South African Republic.—Vice-Consul W. I. Knight, of Cape Town, transmits, under date November 3, 1886, the following amended tariff, which went into effect September 1, 1886:

MODIFICATION OF ACT NO. 6, 1882.

[Particularly Art. 3. Determined by resolution of the honorable the Volksraad. Arts. 611, 613, 618, 619–621, 624, 628–635, 637, 640, 642–645, 647, 649, 652–658, 660, 663–667, 669–680, June 22, 23, and 24, 692, June 25, 804–806, and 808, July 2, 1886.]

ART. 3 (as a new article 7 of the same decree).

(1) All goods imported from abroad to be subject to an impost of 5 per cent. ad valorem, with the exception of the following goods, which are wholly exempt from import duty:

(*a*) All kinds of cattle.

(*b*) Bank notes or other circulating medium and specie, recognized as legal tender in this state.

(*c*) Agricultural implements, as reaping, thrashing, and winnowing machines.

(*d*) Machinery for manufactories, having for their object the development of the country's resources (herein included material for the construction of machinery).

(*e*) Reading and music books and printed school requisites.

(*f*) Goods acquired beyond the border, in the chase, by citizens of the Republic.

(2) In computing the value of goods imported direct from transmarine markets, or through merchants or commercial houses from transmarine markets, 33⅓ per cent. shall be added beforehand to the invoice price.

(3) The following articles to be, above and besides the general import duty of five per cent., further subject to a special import duty, as described after each article:

Articles.	Special import duty.
Gold, silver, and jewelry wares	25 per cent.
Milk, fish, and meat	25 per cent.
	s. d.
Guns and pistols.....per barrel	10 0
All filled cartridges for breech-loading guns, made of paper....per M	5 0
All filled cartridges for breech-loading guns, made of copper or other metal.....per M	2 6
Powder.....per pound	4
Dynamite.....do	1
Lead.....do	6
Shot.....do	3
Candles.....do	1
Tobacco:	
Raw state.....do	1 0
Manufactured.....do	2 6
Butter.....per 100 pounds	50 0
Cheese.....do	50 0
Chicory.....do	50 0
Coffee.....do	5 0
Tea.....do	5 0
Flour.....do	15 0

Articles.	Special import duty.
	s. d.
Pastry, biscuits, or cakes, in tins or otherwise.....per 100 pounds	50 0
Meslies and kaffer corn.....do	5 0
Pork, lard, ham, bacon, &c.....do	100 0
Rice.....do	2 6
Salt.....do	5 6
Sugar.....do	5 0
Preserved and dried fruits and vegetables, confectionery, and jams, per 100 pounds	50 0
Soap:	
Perfumed.....per 100 pounds	10 0
Not perfumed.....do	5 0
Coal.....do	15 0
Beer.....per gallon	3 0
Distilled liquors.....do	6 0
Vinegar.....do	1 0
Cigars.....per hundred	15 0
Kaffer picks.....each	1 0
Kaffer beads.....per pound	6
Copper wire.....do	6
Uniforms or liveries.....each	1 0
Broomsticks, ax and pick handles	1 0
Broom, with stick	1 6

The above modifications, amendments, and determinations will, pursuant to resolution of the Volksraad, Art 692, of June 25, 1886, go into operation September 1, 1886.

S. J. P. KRUGER,
State President.
W. EDWARD BOK,
State Secretary.

GOVERNMENT OFFICE,
Pretoria, July 10, 1886.

Trade of St. Paul de Loando.—Vice-Consul Newton writes from St. Paul de Loando, under date September 30, 1886:

As trade improves better sales may be made but not of some goods or qualities of goods that are frequently sent here. The idea seems to prevail that damaged and very inferior goods are suitable enough for this market. This is a mistake, and damages the reputation of the United States as a source of supply, and I have frequently complained to captains and supercargoes for so carelessly and recklessly injuring the good name and commercial reputation of their country. I will substantiate my remarks by giving my frequent experience in one article, viz, flour.

A considerable quantity is brought in United States vessels from time to time, but is generally more or less damaged or being of inferior quality. The consequence is that instead of finding a ready sale at good prices it is with the utmost difficulty that purchasers can be found for small quantities at low prices, and this is used to mix with Portuguese flour in small quantities and to make very inferior bread, which is used for convicts' and prisoners' rations.

The differential duties make direct trade with this province from other countries somewhat disadvantageous, principally, however, to the shipping interest in most cases. These duties operate as follows: On goods manufactured in any other country than Portugal and imported direct from that country in other than Portuguese vessels the whole amount of duty according to the tariff is payable. If, being of foreign manufacture, they pass through the custom-house in Lisbon and are reshipped thence in Portuguese vessels they pay 2 per cent. ad valorem in Lisbon and 70 per cent. here of the duty. If of Portuguese manufacture and shipped in Portuguese vessels they pay only 2 per cent. in Lisbon and 30 per cent. here.

On the 28th of last month, the anniversary of the birth of the Prince Royal of Portugal, the inauguration of the West African telegraph cable took place, and on or about the 16th of this month the railway from Loando to Ambaca will be inaugurated.

The contractor for the construction of the line is Mr. John Burnay, of Lisbon and Oporto, the subcontractor being Col. D. E. Davenport, an American at present here, and having offices at 2 Moorgate street, London. He is daily expecting two large vessels from the States with material for construction, and I can see no reason why merchants and manufacturers in the States of such goods as will be required, not only in construction but in the maintenance of the line, stations, rolling stock and stores, should not compete for the furnishing of same.

German steamships to Corea.—Consul George B. Goodwin, of Annaberg, Saxony, writes as follows under date of November 2, 1886:

In a report which I made to the Department of State on "German Trade Competition with England and France," and which I am informed was published in the Sep- of a branch line of steamers to run from Japan to Corea, by the North German Lloyd tember number of the Consular Reports, some allusion was made to the establishments Steamship Company. As I am in receipt of numerous letters of inquiry in regard to this matter from citizens of the United States who appear to be deeply interested in any project for the development of trade with Corea, I would thank the Department to make public the announcement that for the moment the company referred to has abandoned its project for the establishment of such a line.

The reasons given for this action are the instability of the political institutions of Corea, and the, at present, unimportant character of German trade with that peninsula. It is quite probable that within a year the experiment of extending the new German subsidized line from Japan to Corea will be tried. Just now the dreadful cholera scourge makes Corea an object of pity and a land to be avoided. It is quite useless to talk of new projects of a commercial nature in connection with it. The usual independent connections between Yokohama and Corean ports continues to be available, and parties in the United States having goods to ship to Corea may, as heretofore, have them billed to Yokahama by American or other lines and then rebilled to Corea.

Commerce of the Tyne.—Consul Joseph Smith writes from Newcastle-on-Tyne, December 11, as follows:

In my report of March 13, 1886, I stated that 130 steamers were laid up in the Tyne for want of employment, and that at the same time there were 25 sailing vessels lying idle. A report which has just been issued shows a decided improvement in this matter. There are now only 22 steamers laid up in the river, being more than 100 less than in March last. There are about the same number of sailing vessels laid up as at the corresponding time last year. The latter fact is of little importance, as the proportion of sailing vessels to steamers is constantly decreasing, and it is more and more difficult to find employment for the former. It may, however, be said that during the summer months sailing vessels find more ready employment than during the winter months, which is true.

Peruvian duties on tobacco and cigars.—Consul H. M. Brent, of Callao, transmits to the Department, under date November 8, the following law fixing the duties on imported tobacco and cigars. He adds:

In addition to these charges all tobacco, snuff, cigars, and cigarettes are made subject to an internal duty, and from these combined sources a yearly revenue of 350,000 silver soles is counted upon.

ARTICLE 1. The import duties on leaf tobacco and other classes, and on cigars and cigarettes, introduced into the Republic shall be specific, and from the date thereof such duties will be collected by all custom-houses according to the following tariff:

All classes of tobacco produced in South and Central America, 25 cents per kilogram.

All classes of tobacco produced in Cuba and other countries, 50 cents per kilogram.

Cigars manufactured of Cuban tobacco, 20 soles silver per thousand.

Cigars manufactured of tobacco from other countries, 10 soles silver per thousand.

Cigarettes from Havana tobacco, 40 soles silver per thousand bunches of 24 cigarettes each.

Cigarettes made from other tobacco, 20 soles silver per thousand bunches.

Budget of Peru.—Consul H. M. Brent, of Callao, writes as follows under date of November 7, 1886:

In my dispatch No. 74, of the 20th of September last, in which an abstract was given of the estimates of expenditures and receipts presented to the Congress of Peru by the minister of the treasury, reference was particularly made to the deficit therein appearing.

Congress just before adjourning took action on these estimates, radically revising them, and enacted laws establishing a yearly poll-tax of two soles in the interior, and four soles on the coast, and also duties on the introduction of tobacco, manufactured and in leaf, from which sources and others of minor importance it is expected to cover the deficit, and even a surplus is counted upon.

I inclose a translation of the budget, as approved and ordered by Congress.

The budget of receipts and expenditures of Peru as ordered by Congress for the year ending July 28, 1887, and also for that ending same date, 1888.

REVENUE (PER YEAR).

	Silver soles.
Customs duties	4,255,901.00
Impost on bales and packages	295,462.24
Duties on export of gold and silver	91,000.00
Harbor dues	94,883.00
Stamped paper, revenue stamps, custom-house paper	288,135.05
Estimated saving on reductions of salaries, &c	250,000.00
Postal service	158,318.00
Rent from railways	79,500.00
Sundries:	
Mint, lapsed legacies and liens on state property, penitentiary, legacy duty, rent of state property	183,012.88
Business licenses	208,928.00
Taxes on real estate, city and rural	361,531.00
Police and mining tax	160,264.00
Poll tax:	
Interior	500,000.00
Coast	600,000.00
Anticipated over-receipts on same; on mining taxes, revenue stamps, stamped paper, and dock dues	130,000.00
Consular fees	6,000.00
Prison work	6,000.00
Duties on tobacco imported	350,000.00
Post office, expected increase	9,420.00
Bolivia, duties returned on Peruvian alcohols	30,000.00
Expected increase from mint	14,000.00
Total	8,062,385.17
Total United States gold	$6,057,029.00

EXPENDITURES (PER YEAR).

Ministry of foreign affairs, including diplomatic and consular salaries	87,800.00
Ministry of justice, instruction, and religion	898,211.00
Ministry of finance	535,488.00
Ministry of war and marine	1,824,766.00
Ministry of the interior, police, and public works	2,454,503.00
Sundries:	
Contingent expenses, interest on internal debt	960,098.00
Total silver soles	6,760,866.00
Total United States gold	$5,077,310.00
Excess of receipts over expenditures:	
Silver soles	1,304,419.17
United States gold	$979,719.00

Canada tariff changes.—The following has been transmitted:

GOVERNMENT HOUSE, OTTAWA, *December* 13, 1886.

Present, his excellency the governor-general in council.

On the recommendation of the honorable the minister of customs, and under the provisions of subsection 12 of section 230 of the act 46 Vic., chap 12, his excellency, by and with the advice of the Queen's privy council for Canada, has been pleased to order, and it is hereby ordered, that fish-skins and fish offal, when imported by manufacturers of glue for use in their own factories, be, and the same are hereby, placed upon the list of articles which may be admitted into the Dominion of Canada free of customs duties.

JOHN J. McGEE,
Clerk Privy Council.

American exports to Shanghai.—Consul-General Kennedy writes, under date November 12, 1886:

According to the tables of the quarterly report of the imperial maritime customs, July–September, 1886, the following were the imports at Shanghai in the years named:

Date.	American drills.	English drills.	American sheetings.	English sheetings.
July–September:	*Pieces.*	*Pieces.*	*Pieces.*	*Pieces.*
1883	108,060	82,206	151,120	40,830
1884	131,655	53,450	223,285	63,251
1885	128,567	89,208	466,220	68,161
1886	213,165	118,941	374,734	40,669

Of kerosene oil, 8,041,790 gallons were imported July–September, 1886, all of which was American. Of sailing vessels entered in the quarter, 14 were from New York.

The exhibit of the import of cotton goods is very cheering, and while there was a falling off in the number of pieces of American sheetings as compared with the same quarter of 1885, it is accounted for by the excess of stock on hand from the last quarter of this class of goods.

Venezuelan duties on tombstones, statues, &c.—Consul Bird communicates the following decree of the Venezuelan Government, issued November 5, 1886:

The President of the Republic, making use of the authorization that article 10 of the law of the tariff of importation concedes to the executive power, and with the affirmative vote of the federal council, has deemed proper to resolve that tombs, statues, busts, urns, and flower-vases of marble, alabaster, granite, or any other analogous stone, that may be imported through the custom-houses of the Republic, be appraised for duty under the third class of the tariff.

Pipe-line from Baku to Batoum.—Consul Thomas E. Heenan writes from Odessa, November 26, 1886:

The Russian newspapers have had a great deal to say of late about a petroleum pipe-line from Baku to Batoum, one paper asserting that the Government had declared its intention to authorize its construction at an early day. This statement was, I believe, premature. There is no doubt, however, that it is very possible the Russian Government will take some decided step in this matter within a short time, and in view of the possibility of the construction of the line being decided upon, American manufacturers should be early in the field to compete with Europeans for supplying the material necessary for this line.

The size of pipe talked of is 7 inches inside diameter, the length of the line about 550 miles, and the greatest elevation about 3,000 feet.

Royal Trans-African Railroad.—Vice-Consul Robert S. Newton writes from St. Paul de Loando, under date of November 13, 1886:

The work of constructing the railway from Loando to Ambaca, and styled the Royal Trans-African Railway, was inaugurated on the 31st ultimo. The works are commenced and large numbers of natives and others employed, and it is expected the line will be ready for traffic within the time mentioned in the contract, or four years. A vessel with a cargo of materials for constructions is expected every day from the States, and most likely, as the work progresses, other products of the United States will be in requisition.

Salt production in Spain.—The following was communicated to the Department by Consul Ingraham, under date of December 4, 1886:

According to the annual report of the Cadiz Salt Association, the quantity of salt extracted from November 1, 1885, to October 31, 1886, while not reaching the production of 1883–'84, was much larger than the amount made in 1884–'85, as the following figures show:

	Lasts.*
November 1, 1884 to October 31, 1885	91,500
November 1, 1885 to October 31, 1886	110,500

The conditions for extracting salt were this year unusually favorably, and have resulted in a considerable increase of the stock on hand, now amounting to about 129,000 lasts, or some 14,000 lasts over that on hand at the same time last year. The committee recommended no change in the price, which rules at $5.50 per last.

Spanish crops, 1886.—Consul Ingraham writes:

The last information I have obtained respecting the wine crop for 1886 is, that the result has been good in quantity as well as quality in all the provinces of Cadiz and and Huelva, with little difference from that of previous years.

Olive oil.—In Cadiz the crop is very small. In Seville and Huelva eating-olives have been very abundant and of superior quality. The prospect of olives for oil, to be gathered in December, is fine. (Cadiz, November 29, 1886.)

*A last is 2½ tons.

Declared exports of Lyons.—Consul Bryan transmits the following from Lyons, under date of November 30:

Value of declared exports from the consular district of Lyons to the United States during the first eleven months of the years 1886 *and* 1885.

Merchandise.	1886.	1885.
	Francs.	*Francs.*
Raw silks	4,625,468 90	4,254,522 80
Organzines silk	1,997 30	24,071 20
Silk and velvet piece goods and ribbons	31,694,445 15	26,848,787 95
Crapes, laces, gauzes, &c	2,005,592 55	1,153,272 60
Shawls	.....	.....
Silk trimmings	9,119 55	1,752 15
Metallic trimmings and church ornaments	849,959 50	1,163,590 35
Silk and cotton gloves	.....	.....
Woolen goods	.....	29,933 70
Cotton goods	.....	12,870 15
Leather and skins	195,515 65	190,298 85
Dyestuffs	290,275 85	238,943 40
Manufactures of iron, &c	164,889 80	202,644 80
Wines and liqueurs	526,909 00	473,788 40
Musical instruments	19,799 55	15,861 70
Argols	1,244,722 20	1,482,051 25
Waste silk, raw, and pierced cocoons	666,300 75	696,343 45
Macaroni, &c	431,069 35	481,247 85
Spectacles, eye-glasses, &c	28,620 75	23,734 05
Weaving materials	11,985 25	35,217 60
Precious stones	39,123 00	42,100 10
Rabbit-hair	5,683 65	23,223 05
Watch materials	43,560 55	8,105 45
Wooden pipes	34,090 05	18,090 25
Waste silk, combed	1,153,830 10	362,485 60
Spun silk and dyed silk	7,719 60	.....
Preserved fruits	33,005 45	37,467 80
Miscellaneous	438,630 95	444,857 45
Total	44,522,264 45	38,307,246 95

Total for the first eleven months of 1886	$8,592,797 04
Total for the first eleven months of 1885	7,393,298 66
Increase for the first eleven months of 1886	1,199,498 38

Commerce of the West Indies.—Consul Moses H. Sawyer transmits the following table to show the commercial importance of the British West Indies:

Islands.	Imports, 1885.	Exports, 1885.	Area.	Population.
			Sq. miles.	
Trinidad	$10,659,094 40	$10,783,987 20	1,724	175,000
Jamaica	8,000,000 00	7,400,000 00	4,200	550,000
Bermuda	1,200,000 00	450,000 00	19	15,000
Bahamas	800,000 00	550,000 00	5,396	45,000
Turk's Island	120,000 00	120,000 00	.....	5,000
St. Lucia	550,000 00	800,000 00	237	40,000
Virgin Islands	950,000 00	1,000,000 00	103	22,000
Nevis	175,000 00	250,000 00	50	12,000
Antigua	950,000 00	1,000,000 00	110	36,000
Montserrat	135,000 00	160,000 00	32	10,000
Dominica	350,000 00	380,000 00	291	29,000
St. Vincent	780,000 00	870,000 00	147	40,000
Barbadoes	5,400,000 00	1,200,000 00	166	175,000
Grenada	675,000 00	750,000 00	133	43,000
Tobago	235,000 00	190,000 00	144	15,000

UNITED STATES CONSULAR REPORTS.

CUSTOMS DUTIES

IMPOSED BY

FOREIGN NATIONS

UPON

AMERICAN PRODUCE AND MANUFACTURES.

No. 73½.—January, 1887.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1887.

TARIFFS CONTAINED IN THIS NUMBER.

	Page.
Argentine Republic	285
Australasia:	
New South Wales	358
New Zealand	367
Victoria	362
Austria-Hungary	119
Barbadoes	272
Belgium	129
Brazil	295
Canada	238
Chili	318
China	350
Corea	354
Denmark	133
Ecuador	323
France	136
Germany	159
Greece	166
Hawaiian Islands	348
Hayti	275
Honduras	258
India	356
Italy	176
Mexico	246
Netherlands	173
Nicaragua	260
Peru	325
Porto Rico	281
Portugal	191
Russia	198
Salvador	264
Siam	355
Spain	206
Sweden	212
Switzerland	219
Turkey	226
United Kingdom	236
United States of Colombia	328
Uruguay	333
Venezuela	342

The arrangement of commodities in these tariffs will be found on page 369.

FOREIGN CUSTOMS DUTIES.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

TRANSMITTING

Letter from the Secretary of State, inclosing statements of the customs duties levied by foreign nations upon the produce and manufactures of the United States.

JANUARY 5, 1887.—Referred to the Committee on Ways and Means and ordered to be printed.

To the House of Representatives:

I transmit herewith a letter from the Secretary of State, inclosing statements of the customs duties levied by foreign nations upon the produce and manufactures of the United States.

GROVER CLEVELAND.

EXECUTIVE MANSION,
January 5, 1887.

DEPARTMENT OF STATE,
December 22, 1886.

To the President:

I submit herewith a number of tables. prepared by the consular officers of the United States in reply to an inquiry made by the Department concerning the customs duties levied in foreign countries upon the produce and manufactures of the United States. In framing this inquiry only such articles were included as are exported from this country to foreign markets, the design being to show what burdens are imposed upon existing commerce, and to leave for a future inquiry what hindrances or prohibitions are entirely preventing the sale of American products in competition with the products of other nations. In a future report these tariffs will be considered in detail, and their restriction and retaliatory features pointed out.

Upon the importance of this subject at the present time I need hardly dwell. The demand for new markets for American products has

become almost imperative, and these markets must be sought among those nations which, from fiscal or protective necessity, from the need of revenue or the desire of fostering manufacturing industries, have imposed duties upon articles of foreign growth or production which are most onerous and oppressive, not only to the consumer, but to the American exporter. A comparison between the tariffs herewith presented and that of the United States may point out in what lines an export trade in American products may be built up by a judicious remodeling of our own tariff.

In conclusion, I would call your attention to the fact that no nation, claiming to be civilized, imposes duties upon works of art at all commensurate with those levied under the tariff of the United States.

Respectfully submitted.

T. F. BAYARD.

EUROPE.

AUSTRIA-HUNGARY.

Customs duties collected under the tariff laws of Austria-Hungary on the articles named in the following list (per 100 kilograms), being products and manufactures of the United States.*

[Prepared by Consul-General Jussen.]

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
1	Agricultural implements:		
	Machines out of wood, *i. e.*, with more than 75 per cent. of wood, duty raised by recent amendment from 3 florins to	5.00	$2 40
	Machines out of base metal, *i. e.*, with more than 50 per cent. of base metal, duty raised from 10 florins to	15.00	7 20
	Machines and apparatus not particularly enumerated, duty raised from 6 florins to	8.50	4 08
	Threshing-machines	7.00	3 36
	Harrows, iron	4.00	1 92
	Harrows, roughly painted or polished	5.00	2 40
	Harrows, finely painted or polished	8.50	4 08
	Plows, wooden, not painted	1.00	48
	Plows, with iron trimmings, painted or varnished	3.00	1 44
	Plows, of wrought iron or steel, with or without wood, partly painted and polished	5.00	2 40
	Same, polished	8.50	4 08
	Steam plows	4.25	2 04
2	Animals (per head):		
	Oxen, raised from 10 florins to	15.00	7 20
	Steers	4.00	1 92
	Cows	3.00	1 44
	Young cattle, raised from 2 florins to	3.00	1 44
	Calves, raised from 1 florin to	1.50	72
	Hogs	3.00	1 44
	Horses and foals	10.00	4 80
	Foals who accompany the mares	Free.	
	Mules	2.00	96
	Sheep and goats	.50	24
	Lambs and kids	.25	12
	All other animals not especially enumerated	Free.	
3	Art works	Free.	
	But all decorated articles intended for ordinary use are to pay duty according to material; for instance, painted wall-paper or decorations, rolleaux, letter paper, cups, &c.		
4	Bark and extracts, coloring wood:		
	In blocks	Free.	
	Ground or cut	.50	24
	Barks, roots, leaves, blossoms, fruits, gall-nuts, &c., cut, ground, or broken, for coloring and tanning	Free.	
	Extract of chestnut wood, garancine and garancineth, litmus and sepia	1.50	72
	Catechu (terra japonica), kino, kermes kernels, lacdye	Free.	
	Orseille, persio, indigo, cochineal, tanners' and coloring extracts not especially mentioned	3.00	1 44
	Indigo and cochineal, imported by sea	Free.	
5	Blacking raised from 1.50 florins to	5.00	2 46
6	Bones, hoofs, horns, &c	Free.	
7	Books, maps, engravings, &c. The internal stamp tax to be paid on almanacs, newspapers, &c.; if the binding of books, maps, music, manuscript, or pictures comes within the appellation of notions (kurzwaaren) they pay duty according to material coverings; envelopes, or cartons into which books or pictures are placed loosely, pay duty according to material	Free.	

*100 kilograms = 221½ pounds English.

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
8	Brass and manufactures of:		
	Copper, metal, nickel, tombac, and other metals not especially enumerated, and metal mixtures:		
	Crude, old, broken as waste, quicksilver, mercury	Free.	
	Brass in heavy pieces and castings over 5 kilograms, in bells or pipes or tubes over 10 kilograms in weight	6.00	$2 88
	In bars or sheets and wire over 0.5 millimeters thick	8.00	3 84
	Sheets and wire of 0.5 millimeter and under, sunken or perforated sheets	10.00	4 80
	Silver-plated wire, plates, or sheets out of copper or metal-leonine wire (imitation) not worked into any forms or shapes, raised from 15 florins to	30.00	14 40
	Manufactures of copper and metal:		
	Common metal ware, as rollers, boilers, tubes, also in connection with wood or other material	10.00	4 80
	Polished, varnished, nickeled	12.00	5 76
	Metal wares, fine, not specially described, telegraph cables raised from 15 florins to	20 00	9 60
	Metal wares, very fine, articles of luxury, *i. e.*, decorated, pressed, or nickeled, Brittania metal, bronze, if not subject to higher duty as notions, raised from 30 florins to	50.00	24 00
	Metal cloths, fine, pens, metal thread, covered wire, raised from 30 florins to	50.00	24 00
	Gun caps, explosive, and brass cartridges with caps	24.00	11 52
9	Breadstuffs:		
	Barley, raised from 25 kreutzers to	75	36
	Bread and biscuits, bread, common wheat or rye and ship's biscuits raised from 1.50 to	3.75	1 80
	Indian corn, raised from .25 to	.50	24
	Oats, raised from 25 kreutzers to	.75	36
	Rye, raised from 25 kreutzers to	1.50	72
	Wheat, raised from 50 kreutzers to	1.50	72
	Malt, raised from 60 kreutzers to	1.50	72
	Flour and products of flour, as grit, shelled barley, &c., raised from 1.50 florins to	3.75	1 80
10	Bricks		
11	Brooms and brushes:		
	Brooms and brushes out of rice straw and other vegetable material	4.00	1 92
	All others	15.00	7 20
12	Candles:		
	Tallow candles	6.00	2 88
	Wax candles, tapers, &c., raised from 10 florins to	25.00	12 00
	Candles not especially enumerated, such as sperm, palm oil, or paraffine candles	11.00	5 28
13	Carriages and horse cars, street vehicles (per piece):		
	Freight wagons or sleighs	3.00	1 44
	Wagons, buggies, or carriages, without leather or upholstery	25.00	12 00
	Same, with leather or upholstery	75.00	36 00
	Sleighs as described under pay one-half; those under, two-thirds of said duty.		
	Freight-cars, raised from 5 florins to	7.00	3 36
	Passenger-cars, not upholstered, raised from 6.50 florins to	8.00	3 84
	Upholstered passenger-cars	8.00	4 32
14	Cars (railroad and steam) pay same rate of duty as horse-cars. (See No. 13.)		
15	Chemicals:		
	Borax, crude; acid of borax; Chili saltpeter, crude; sulphur, in pieces, sticks, or ground; sulphur blossom; antimony; tartar, crude and refined; tartar acid; lime. Added to this list under recent amendment, viz: phosphorus and phosphoric acid	Free.	
	Fertilizing acids, waste of manufacture for fertilizing purposes	Free.	
	Chloride of magnesium; glauber salts	.20	10
	Arsen, metallic arsenic, arsenic acids, arsenic sulphur, iron acids of all kinds, vegetable acids, crude, saffer, powdered glass, spodium, muriatic acid, iron vitriol	.50	24
	Sulphuric acid, raised from 50 to 75 kreutzers	.75	36
	Soda, crude or crystallized; potash, kalium, sulphuric natrium, and bisulphuricum	.80	38
	Glycerine and glycerine lye	.80	38
	Soda ash	1.20	57
	Potash of more than 85 degrees	1.50	72
	Alum, ammonia, sulphate of, sal-ammonia and spirits of same, hartshorn, sulphate of alum, and ammoniac, admonter, copper and zinc vitriol, lead ashes, litharge, borax, refined, chloride of lime, acetate of lime, kali saltpeter, refined bisulph. of carbon, waterglass, aniline oil, carbolic acid, crude, nitrobenzol, anthracen, crude, naphthaline	1.50	72
	Barytwhite, bleaching lye, verdigris, putty of all kinds, soda bicarbonate, potash and carbonate of ammonia	3.00	1 44

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
15	Chemicals—Continued.		
	Potassium, sodium, sulphate of lime, hyposulphate of lime, manganate and permanganate, sulphate and hyposulphate of soda, oxalic acid, sorrel salt, sulphate of magnesia, white lead, white zinc oxyde, gray zinc oxyde, mennig and massicot, clay hydrate	4.00	$1 92
	Acetate of lead, sugar of lead, acetate of alumina, zinc ashes, chromate of potash and soda, yellow and red, zinc salt, and other zinc preparations	6.00	2 88
16	Clocks and watches (per piece):		
	Pocket watches—		
	With gold or gilded cases	1.00	48
	With silver or silver-plated cases	.50	24
	With other cases	.30	14
	Cases for pocket watches:		
	Gold or gilded	.70	34
	Silver or silver-plated	.20	10
	All other cases according to nature of material.		
	Works for pocket watches	.30	14
	Clocks:		
	Ordinary hanging clocks of wood; their works and furniture raised from 30 florins to	50.00	24 00
	Clocks and clock works not specially enumerated, when they do not come within the class of notions (kurzwaaren) raised from 50 florins to	100.00	48 00
	Tower clocks and parts thereof	10.00	4 80
17	Coal:		
	Coal, turf, coke, and all fuel composed of these materials	Free.	
18	Copper:		
	Crude ore or old, broken, or waste	Free.	
	In cast shape, i. e., in bells or tubes and pipes, weighing not more than 5 kilograms, and in other wares weighing not more than 10 kilograms	6.00	2 88
	In bars or plates	8.00	3 84
	Wires 0.5 millimeter and under thick, sunken and perforated plates.	10.00	4 80
	Sheets of copper and metal, imitation leonine ware; raised from 15 florins to	30.00	14 40
19	Cotton, manufactures of:		
	Cotton, raw, carded, bleached, dyed, and waste	Free.	
	Cotton wadding	5.00	2 40
	Cotton yarns, single—		
	Up to No. 12 English	6.00	2 88
	Over No. 12 and up to No. 29 English	8.00	3 84
	Over No. 29 and up to No. 50 English, raised from 12 florins to	14.00	6 78
	Over No. 50 English	16.00	7 68
	Added under new amendment: Cotton yarn, double, raw—		
	Up to No. 12 English	8.00	3 84
	Over No. 12 and up to No. 29 English	10.00	4 80
	Over No. 29 and up to No. 60 English	16.00	7 68
	Over No. 60 English	12.00	5 76
	Cotton yarn, single or doubled, bleached or dyed—		
	Up to No. 12 English, raised from 10 florins to	12.00	5 76
	Over No. 12 up to 29 English, raised from 12 florins to	14.00	6 72
	Over No. 29 up to 50 English, raised from 16 florins to	18.00	8 64
	Over No. 50 English	20.00	9 60
	Cotton yarns, raw, treble twist or more, bleached or dyed	24.00	11 52
	On spools or arranged for retail trade, raised from 80 florins to	35.00	16 80
	Manufactures of cotton, plain and common, out of yarn No. 50 and under, 38 threads or less, to 5 millimeters square—		
	Raw, raised from 32 florins to	34.00	16 32
	Bleached, raised from 40 florins to	45.00	21 60
	Dyed, raised from 50 florins to	55.00	26 40
	Woven in various colors, raised from 60 florins to	70.00	33 60
	Manufactures, figured, out of yarn No. 50 and under, 38 threads or less, to 5 millimeters square—		
	Raw, raised from 40 florins to	45.00	21 60
	Bleached, raised from 50 florins to	55.00	26 40
	Dyed, raised from 50 florins to	65.00	31 20
	Woven in various colors, and printed, raised from 70 florins to	80.00	38 40
20	Earthen, stone, and china ware:		
	Stoneware—		
	Cut-stone slabs, unpolished, excepting slate slabs and lithographer's stone	1.50	72
	Articles not specially enumerated made from alabaster, marble, porphyry, granite, and similar hard stones—		
	Crude stonemason work, unpolished	1.50	72
	Other unpolished stone manufactures	3.00	1 44
	Same polished, polished slabs	7.50	3 60

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
20	Earthen, stone, and china ware—Continued.		
	Other articles not specially enumerated made out of other stones than those above mentioned—		
	Crude stonemason work, unpolished	0. 50	$0 24
	Other unpolished articles	1. 50	72
	Same polished, polished slabs	3. 00	1 44
	Same duty if article is connected with wood or iron.		
	Slate—		
	In slabs, only cut	0. 75	37
	Roof slates	1. 00	48
	Polished, blackened, lined, and in frames of coarse wood	3. 00	1 44
	Cement wares, polished, painted, or varnished	3. 00	1 44
	Asbestos wares—		
	Asbestos paper, unformed	5?00	2 40
	Same formed and perforated	12. 00	5 76
	Asbestos weavings, also in connection with wire of base metal	12. 00	5 76
	Same in connection with other weaving material	20. 00	9 60
	Same if not classed under notions in connection with any other material	30. 00	14 40
	Grind, whet, and lithographer's stones—		
	Colored stones, natural polishing, cleaning stones, or earth prepared for retail sale	5. 00	2 40
	Earthenware—		
	Common brick, roof tiles, and earthen pipes, unglazed	Free.	
	Same, glazed	0. 50	24
	Tiles of common form, up to 5 kilograms each	0. 50	24
	All others	1. 00	48
	Paving material and pipes out of glazed earth or clay	1. 00	48
	Vessels for manufacturing purposes	1. 00	48
	Common stoneware, as jugs, &c	1. 00	48
	Same, common earthenware	0. 50	24
	Same, connected with wood or iron, without polish or varnish	2. 00	96
	Building ornaments of terra cotta, glazed and unglazed; ordinary stoves and parts thereof, wall and floor tiling	3. 00	1 44
	Earthenware not specially mentioned—		
	Of one color, or white	5. 00	2 40
	Of more than one color, painted, decorated, printed, gilded, or silvered	8. 00	3 84
	Porcelain—		
	White	7. 00	3 36
	Colored, painted, printed, silvered, or gilded	15. 00	7 20
	Earthenware in connection with other material, if not classed under leather or metal ware or notions	15. 00	7 20
21	Fertilizers:		
	All animal, vegetable, and artificial fertilizers	Free.	
22	Fish:		
	Fresh river lobsters raised from 1 florin to	2. 00	96
	Herring, salted or smoked	3. 00	1 44
	Fish not especially enumerated, salted, smoked, or dried	5. 00	2 40
	Caviar and caviar surrogate	50. 00	24 00
	All in cans or bottles hermetically closed, excepting caviar	40. 00	19 20
	All provisions not especially enumerated	40. 00	19 20
23	Flax, hemp, and jute manufactures:		
	Flax and hemp yarns; yarns not especially enumerated—		
	Single, raw	1. 50	72
	Single, bleached or colored	5. 00	2 40
	Twisted, raised from 12 florins to	18. 00	8 64
	Linen yarn adjusted for retail—		
	Single	18. 00	8 64
	Double	35. 00	16 80
	All yarns before recent amendment, 30 florins.		
	Jute yarns—		
	Single, raw	1. 50	72
	Twisted, bleached or colored	5. 00	2 40
	Linen goods—		
	Gray packing linen, smooth and coarse, without figures, from hemp or flax, not more than 5-chain threads to 5 millimeters square, and bags from same, raised from 2 florins to	6. 00	2 88
	Used bags when returned	Free.	
	Linen goods, raw unfigured, up to 20-chain threads to 5 millimeters	12. 00	5 76
	Same, bleached, colored, or printed—		
	Up to 10 threads to 5 millimeters	20. 00	9 60
	11 to 20 threads to 5 millimeters	40. 00	19 20
	Same figured—		
	Raw	40. 00	19 20
	Bleached, dyed, or printed	80. 00	38 40
	(All goods under this head were formerly 40 florins.)		
	Battiste, gauze, and other loose weavings	120. 00	57 60
	Manufactures in connection with metal threads	160. 00	76 80

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
23	Flax, hemp, and jute manufactures—Continued.		
	Linen goods—Continued.		
	Lace edgings and embroidered woven goods raised from 200 florins to	200.00	$144 00
	Fringes, buttons, and ribbons	80.00	38 40
	Jute weavings—		
	Bag and packing stuff out of jute, raw, unbleached and unfigured, not more than 5 threads to 5 millimeters; bags and sacks out of same	6.00	2 88
	Ropes, cords, lines, also bleached or tarred, raised from 3 florins to	5.00	2 40
	Furniture and clothing stuffs, and all weavings of jute in connection with other vegetable weaving material, inclusive of cotton, if containing more threads of jute than of other material; jute weavings embodied or in connection with metallic threads	@ 40.00	9 20
	Jute weavings not especially enumerated, lap-robes, carpets out of jute, and other weaving material not especially enumerated, also bleached, colored, printed, and figured	12.00	5 76
	Cacao yarn	Free.	
24	Fruits, preserved:		
	Figs, fresh	3.00	1 44
	Figs, dried	12.00	5 76
	Grapes, dried raisins and currants	12.00	5 76
	Lemons, limes, and oranges	8.00	3 84
	Lemons, limes, and oranges preserved in salt-water—		
	Oranges, green and small; lemon and orange peels	3.00	1 44
	Dates, pistachio nuts	15.00	7 20
	Almonds, dry and peeled	15.00	7 20
	Almonds, green and unpeeled	6.00	2 88
	Chestnuts and olives, fresh, dried, or salted	3.00	1 44
	Grapes, fresh for table use, and pine-apples, raised from 5 florins to	10.00	4 80
	Nuts and hazelnuts, dry or peeled, raised from 2.50 florins to	5.00	2 40
	Fruit not especially enumerated, fresh	Free.	
	Same dried or prepared, compressed, cut, powdered, salted, or preserved in vinegar, in barrels, or boiled without sugar, raised from 2.50 florins to	5.00	2 40
	Fruit in cans or bottles hermetically closed and prepared in other manner than above stated	40.00	19 20
25	Furs:		
	Furs, dressed and tanned, but not finished for use—		
	From common furs	10.00	4 80
	From fine furs	50.00	24 00
	Furs finished for use—		
	From common furs raised, from 40 florins to	80.00	38 40
	From fine furs	200.00	96 00
	Clothing, not silk, leather gloves, trimmed or lined with fur, to be classed as fine furs finished for use.		
26	Glass:		
	Glass, crude, glass-dust	1.50	72
	Hollow glass, common, unpolished, unpressed, not figured or ground—		
	Natural color, but not white	2.00	96
	White, transparent	4.00	1 92
	Hollow glass, natural color, with only ground stoppers or rims or bottoms	4.00	1 92
	Hollow glass, white (transparent), ground, figured, pressed, or cut, massive white glass not especially mentioned	8.00	3 84
	Plate glass—		
	Mirror glass, raw, unpolished, ripped, crude, also roof tiles	1.50	72
	Window glass, natural color (green, half or all white), unpolished, not figured	4.00	1 92
	Plate glass of all kinds, polished, figured, framed looking-glasses	12.00	5 76
	Optical glass, flint, crown, zinc, and borax glass, crude, not polished into lenses, in pieces pressed into form of lenses or plates	1.50	72
	Watch crystals, glasses for spectacles, and other optical glasses prepared and polished, raised from 50 florins to	75.00	36 00
	Glass sticks or tubes, without distinction of color, used for manufacture of pearls or buttons	1.50	72
	Glass ornaments for chandeliers, glass buttons, corals, pearls jet, drops, also colored	2.00	96
	Glass, colored, excepting the two previous classes, painted, gilded, or silvered, glass stones without setting	12.00	5 76
	Glass ware not especially mentioned in connection with other materials, and not belonging to class of metals, leather, or notions	15.00	7 20

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
27	Glucose:		
	Glucose, hard	15.00	$7 20
	Glucose, fluid	6.00	2 88
28	Glue, raised from 1.60 florins to	6.00	2 88
29	Gunpowder (can only be imported under special permit)	52.50	25 20
30	Hair of all kinds	Free.	
31	Hay and all dry fodder	Free.	
32	Hides and skins green, dry, or salted	Free.	
33	Honey, raised from 1.50 florins to	6.00	2 88
34	Hops and hop-meal (lupulme)	10.00	4 80
35	Ice	Free.	
36	India-rubber manufactures:		
	India-rubber (Kautschuk) and gutta-percha, crude or cleaned	Free.	
	Same dissolved, rubber threads not covered	1.50	72
	Hard rubber in sheets, sticks, or tubes; also polished but not otherwise prepared	6.00	2 88
	Hose and bands of all kinds out of rubber with inlaid weavings or wire, raised from 12 florins to	20.00	9 60
	Shoes of rubber, in connection with other material if not within the class of leather ware or notions	30.00	14 40
	Children's rubber toys	30.00	14 80
	Rubber goods out of soft rubber, excepting those above mentioned, raised from 20 florins to	30.00	14 40
	Sheets and strips of soft rubber, not vulcanized	10.00	4 40
	Weavings covered with rubber or saturated or connected by inside layers of rubber	45.00	21 60
	Clothing and other goods manufactured out of materials last mentioned	50.00	24 00
	Elastic weavings and passamenterie wares	70.00	33 60
	Hard-rubber goods, raised from 30 florins to	50.00	24 00
37	Iron and steel manufactures:		
	Crude iron, iron and steel, old, broken, and as waste	.80	38
	Lumps, ingots	1.60	77
	Iron and steel, wrought or rolled into rods—		
	(Faconnirt) shaped	3.50	1 68
	(not faconnirt) not shaped	2.75	1 32
	Railroad rails	2.75	1 32
	Wire—		
	1 millimeter and more diameter	4.00	1 92
	Less than 1 millimeter in diameter to 0.4 millimeter in diameter	5.00	2 40
	Under 0.4 millimeter in diameter	7.00	3 36
	Japanned, coppered, nickeled, tinned, or zinced—		
	Of 0.4 millimeter or more in diameter	8.00	3 84
	Under 0.4 millimeter in diameter	10.00	4 80
	Japanned	12.00	5 76
	Wire of 1.5 millimeters and more in diameter	4.00	1 92
	Wire less than 1.5 millimeters and up to 0.5 millimeter in diameter	5.00	2 40
	Wire less than 0.5 millimeter in diameter	6.00	2 88
	Wire, japanned, coppered, tin or zinc plated	8.00	3 84
	Iron-ware, common cast-iron:		
	Crude, unworked	2.00	96
	Polished or coarsely painted, or partly polished and smoothed	4.00	1 92
	Polished, planed, coppered, tinned, zinced, or finely painted	8.50	4 22
	Common iron and steel ware out of malleable cast-iron, cast-steel, wrought-iron, or steel:		
	Crude, also cleaned	4.00	1 92
	Coarsely printed or partially polished, turned, also bolts and nuts	5.00	2 40
	Polished, planed, turned, coppered, tinned, zinced, or finely painted	8.50	4 22
	(Same duty on all wares above mentioned, if connected with wood.)		
	Wrought-iron pipes, scythes, sickles also connected with wood, nails (except horseshoe nails), wire-nails, raised from 5 florins to	6.50	3 12
	Perforated or sunken sheet-iron, and wares out of	6.00	2 88
	Boilers, steam-boilers	8.50	4 08
	Hay and dung forks, hoes, shovels (rough and only partially polished, also in connection with wood), weighing 2 kilograms each, raised from 6.50 florins to	7.00	36
	Tin-ware not especially enumerated, painted, tin or zinc plated or copper-plated	15.00	7 20
	Wire rope, wire brushes, sieves and coarse wire goods	8.00	3 84
	Block saws, files, and rasps, 25 centimeters long or longer, augers, hammers, axes, tongs, nippers, &c., hay and dung forks, except those above-mentioned, scales and parts of, locks, keys, &c., horseshoe nails, tacks, screws, at least 5 millimeters in diameter, also in connection with wood, crude, parts of cutlery unfinished, pressed or wrought	10.00	4 80

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
37	Iron and steel manufactures—Continued.		
	Common iron and steel ware out of mallable cast-iron, cast-steel, wrought-iron, or steel:		
	Polished saws, files, and rasps, under 25 centimeters long, planing and chiseling irons, awls, coarse knives and scissors for mechanics and agricultural use, tools of all kinds weighing each less than 500 grammes, screws under 5 millimeters in diameter; all these in connection with other material if they do not come within the class of rubber, leather, or metal goods or notions	20.00	$9 60
	Light, artistic, and ornamental castings, wire goods not especially enumerated, steel strings—all these if not within the class of rubber, leather, or metal goods or notions	15.00	7 20
	Polished, japanned, enamelled fire-arms (with exception of hand arms), and parts of fire-arms, weavers' combs, scrapers, toys, skates, furniture upholstered or covered and finely ornamented	25.00	12 00
	Cutlery, hand (pocket) fire-arms, writing pens, springs, except watch and carriage springs	50.00	24 00
	Pins, crochet and knitting needles, hooks and eyes, buckles, buttons, fish-hooks, thimbles, &c., needles 5 centimeters long and over	50.00	24 00
	Needles less than 5 centimeters long	100.00	48 00
38	Jewelry, jewels:		
	Gold and silver ware, jewelers' ware, and all wares not especially enumerated and consisting in whole or in part of precious metal, genuine or imitation pearls or corals, jewels in gold, silver, or wire setting, articles made out of genuine gilded or silvered leonine ware	300.00	144 00
	Genuine gold leaf, wire of precious metal, articles not specially enumerated made out of base metal gold or silver plated, or inlaid with gold or silver, genuine gilded or silver-plated leonine ware imitation pearls artificial teeth, wigs, articles made in imitation of leonine ware, frames for opera glasses, spectacles, &c	100.00	48 00
	Articles made of ivory, mother-of-pearl, tortoise shell, or amber	100.00	48 00
	Gents' and ladies' ornaments out of base metal, nickeled, plated, bracelets and necklaces of glass beads	50.00	24 00
	Arm and necklaces of stone and steel beads and metal beads, gilded or silvered	50.00	24 00
	Precious stones, genuine, corals, genuine and imitation, polished, cut, or prepared in any way, genuine pearls, all if not set	24.00	11 02
39	Lamps:		
	No duty on lamps as such; rate of duty according to material, as notions	50.00	24 00
	Lamp cylinders	4.00	1 92
40	Lead and manufactures of:		
	Lead and lead alloy—		
	Crude, also old, broken and as waste; raised from 1 florin to	2.00	96
	Cast pipes, sheets, balls, shot, lead wire, type and stereotype plates, raised from 4.50 florins	5.00	2 40
41	Leather and manufactures of:		
	a. Leather, common, *i. e.*, not embraced within *b* and *c*, black horse leather, drawn or grained, in whole or half hides	9.00	4 32
	Sheep or goat skins, not white or colored	6.00	2 88
	b. Sole leather and waste of same	18.00	8 64
	c. Leather, fine, *i. e.*, black leather with exception of that described under *a*) glove leather, cordovan, morocco leather, saffian, and all lackered, colored, or bronzed leather, figured and pressed, leather parchment	18.00	9 32
	d. Leather ware, common, *i. e.*, goods out of common leather and of black, drawn, or grained neat's or horse leather or coarse oilcloth, saddles, pocket-makers' wares out of haired leather, coarse canvas, sail cloth, and other coarse linen material, and girths	25.00	12 00
	e. Leather ware, fine, *i. e.*, out of white, or chamois leather, parchment, or out of fine leather classed under *c* and out of oilcloth not especially described, saddlers' and pocketbook manufacturers', wares made out of material described under *c*, bleached or colored	35.00	16 80
	(Same duty also in connection with other material, if wares under *d* and *e* are not classed under higher tariff on rubber, metal or notions.)		
	Shoes of all kinds, of leather or partly leather, if not classed under notions	35.00	16 80
	Glove leather or cut patterns for gloves, also in connection with weavings; surgical bandages	50.00	24 00
42	Lime and cement:		
	Lime, ground or slaked	.20	09
	Lime, raw	Free.	
	Cement	.50	24

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
43	Malt liquors:		
	In barrels	3.00	$1 44
	In bottles or jugs	6.00	2 84
44	Surgical instruments, of whatever material	Free.	
45	Naval stores:		
	Rosin	.50	24
	Tar	.20	09
	Turpentine	1.50	72
	Pitch	.50	24
	Oil cake and meal	Free.	
46	Oils:		
47	Animal oils and fats, fats, and fat mixtures not specially enumerated, fish oil, sperm oil	1.00	48
	Animal products not especially enumerated	Free.	
	Fat oils in bottles or jugs	10.00	4 80
	Mineral oils—		
	Crude, not fit for illuminating purposes without refinement—		
	Heavy of not more than 830° specific gravity under temperature of 12° R. raised from 1.10 florins to	1.42	68
	Light, of and under 830° specific gravity.		
	(NOTE BY THE DEPARTMENT.—Consul-General Jussen has omitted to insert the rate of duty applying to this oil. Under the old tariff it was charged 2 florins, or 96 cents.)		
	Crude, fit for illuminating purposes without refinement	10.00	4 80
	(NOTE.—This is one of the inexplicable descriptions of the Austrian tariff.)		
	Refined and half-refined, heavy, over 880° raised from 1.90 florins to	3.00	1 44
	(NOTE BY CONSUL-GENERAL JUSSEN.—This tariff is hereafter to be applied to the partially refined Russian petroleum, heretofore imported under a No. 1, at 1.10 florins.)		
	Light, of and under 880° specific gravity	10.00	4 80
	Refined Russian and American petroleum: Refined mineral oils, intended for industrial purposes as solvents under 770° specific gravity	3.00	1 44
	Vegetable oils—		
	Palm and cocoanut oil	1.00	48
	Palm and cocoanut oil imported by sea	.50	24
	Olive oil, poppy, sesame, peanut, sunflower, and cotton oil, in barrels, bladders, or leather bags, raised from 4 florins to	8.00	3 84
	Rapeseed oil, linseed oil, and other fat oils not specially enumerated, in barrels, bladders and leather bags, with the exception of oil varnishes, raised from 2 florins to	4.00	1 92
	Oils, fat, in bottles or jugs	10.00	4 80
	Volatile oils—		
	Amber, hartshorn, rubber, laurel, rosmarin, and juniper oil	6.00	2 88
	All volatile oils not especially enumerated	25.00	12 00
	Perfumed oils, fats, and vinegars, in packages of not less than 5 kilograms	10.00	4 80
	Turpentine, pitch, and rosin oil	1.50	72
48	Paraffine and wax:		
	Paraffine, unrefined, paraffine butter, ceresin, and spermaceti	4.00	1 92
	Wax, inclusive of vegetable wax, formerly free, under recent amendment—		
	In natural state	5.00	2 40
	Prepared, bleached, colored	10.00	4 80
49	Paints:		
	Tar paints and artificially-prepared organic coloring matter	10.00	4 80
	All paints in capsules, bladders, and boxes	24.00	11 53
50	Paper, manufactures of:		
	Paper pulp, bleached or unbleached—		
	Of rags	Free.	
	Of wood, straw-esparto, and similar fibers	.50	24
	Blotting-paper, coarse packing-paper, uncolored, ordinary pasteboard, raised from 1 florin to	3.00	1 44
	Packing-paper, smooth or colored, lackered or tarred	3.00	1 44
	Pasteboard, enameled and imitation, of leather, emery, glass, and sand-paper	3.00	1 44
	Paper, common, unsized (coarse, gray, half white, and colored), all unsized printing-paper	5.00	2 40
	Paper not particularly mentioned	5.00	2 40
	Lithographed, printed, or lined paper for labels, bills of lading, bills, &c., drawing-paper, gelatine-paper, parchment-paper, printers' pasteboard, many-colored paper	7.00	3 36
	Gold and silver paper and paper with gold and silver figures, also bronzed paper, pressed or perforated paper, strips of same; paper and pasteboard lined with cotton	15.00	7 20
	Wall-paper, raised from 15 florins to	25.00	12 00

Customs duties collected under the tariff laws of Austria-Hungary, &c.—Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
50	Paper, manufactures of—Continued.		
	Moldings of paper pulp, asphalt, or similar material—		
	Not painted or lackered, also in connection with wood, raised from 2 florins to	5.00	$2 40
	Same in connection with other material if not within class of notions	15.00	7 20
	Paper ware, i. e., made out of paper pulp or wood fiber, also in connection with other material, if not within the class of notions	15.00	7 20
	Luxury paper ware, fine boxes, labels, and vignettes with different colors (chromo-lithographs), paper toys, paper collars, &c.	30.00	14 40
	Paper book binding, linen or cotton lined, also in connection with other material, if not within class of notions, &c.	30.00	14 40
	Playing cards	60.00	28 80
	(Playing-cards also pay a consumption tax.)		
51	Plated ware, metal ware, very fine articles of luxury, ornamented or nickeled, German-silver goods, britannia metal, bronze metal, and similar plating, also in connection with other material if not within the class of notions, raised from 30 florins to	50.00	24 00
52	Provisions:		
	Meats, fresh	6.00	2 88
	Meats, salt, dried, or smoked	6.00	2 88
	Oleomargarine	10.00	4 80
	Lard	16.00	7 68
	Butter	10.00	4 80
	Cheese raised from 10 florins to	20.00	9 60
53	Quicksilver	Free.	
54	Seeds	.50	24
55	Soap:		
	Common	4.00	1 92
	Fine, perfumed	15.00	7 20
56	Spirits:		
	Alcohol and spirits of all kinds	24.00	11 52
	Cordials, punch extract, arrac, rum, and cognac	40.00	19 20
57	Starch	6.00	2 88
58	Sugar:		
	Cane sugar—		
	Under Holland standard, No. 19	15.00	7 20
	Of Holland standard, No. 19 and over	20.00	9 60
	Refined sugar	20.00	9 60
	Solutions of sugar, starch sugar, and hard glucose	15.00	7 20
	Molasses—		
	Sirup, starch sugar, and glucose in fluid state, molasses	6.00	2 88
	NOTE.—Molasses for distilleries now in operation admitted up to August 1, 1888, at	.25	12
59	Tin, crude, old, broken, and as waste	Free.	
	Tin, in bars, sheets, wires, or pipes, cast tin, course not finished: also in connection with common woodwork and bars and sheets of iron	4.00	1 92
60	Tobacco:		
	Leaf, raw, unprepared, ribs, and tobacco brim (can only be imported under special permission)	21.00	10 08
	Cigars and cigarettes and all kinds of smoking tobacco and snuff (can only be imported under special permission)	52.50	25 20
	(NOTE BY CONSUL-GENERAL JUSSEN.—The permission is never granted except to private individuals for private use and for very small quantities, the trade in tobacco and cigars being a monopoly of the Government.)		
61	Vegetables:		
	Fresh	Free.	
	In hermetically closed cans, jars, or bottles	40.00	19 20
	Dried or prepared, compressed, pulverized, salted, or in vinegar, raised from 2.50 florins to	5.00	2 40
62	Wood	Free.	
	Wood:		
	Manufactures of common wooden ware and coarse cooper or cabinet ware, planed wagon-maker's work, turning-lathes, rollers, presses, spinning-wheels and weaving-looms, brush brooms, agricultural, garden, and kitchen implements—		
	If not painted, varnished, or polished, nor in connection with other material, raised from 1 florin to	1.50	72
	Unfinished, but trimmed or in connection with iron or base metal	3.00	1 44
	Painted, varnished, lackered, or polished or in connection with cane, straw, or basket work, base metal, glass, stone plates, or common leather, raised from 3 florins to	5.00	2 40
	Furniture and parts of—		
	Fine, unfinished, raised from 3 florins to	5.00	2 40

Customs duties collected under the tariff laws of Austria-Hungary, &c. —Continued.

No.	Tariff classification.	Tariff rates of duty, in gold florins.	Equivalent in United States money.
62	Wood—Continued.		
	Furniture and parts of—Continued.		
	Painted, varnished, lackered, polished, or in connection with bast, can, straw or basket work, base metal, glass and stone plates, or common leather, raised from 3 florins to...	5.00	$2 40
	Upholstered furniture, without covering.....	15.00	7 20
	Upholstered furniture, with covering, raised from 20 florins to..	30.00	14 40
	Fine wooden-ware, *i. e.*, fine turned or carved ware, wooden, bronze, gilded, or silvered, or finely painted wooden-ware, all wares of wood not specially enumerated, wares of other vegetable covering material.....	15.00	7 20
	Basket-work, common	5.00	2 40
	Basket-work, fine, raised from 20 florins	50.00	24 00
	Wooden-ware, with fine inlaid work, raised from 20 florins to ...	30.00	14 40
	Fourniers and parquette floors and parts thereof—		
	Unfinished.....	1.50	72
	Colored or polished.....	3.00	1 44
	Fourniers, inlaid	12.00	5 76
	Woodeu toys—		
	Coarse, only planed, carved, or turned in the raw, raised from 1 florin to	5.00	2 40
	All others.....	20.00	9 60
63	Wool.....	Free.	
64	Zinc:		
	Crude, old, broken, or waste (before amendment, free)	1.00	48
	In bars and sheets, raised from 1.50 florins to.....	3.00	1 44

Dated at Vienna, May 25, 1886.

EDMUND JUSSEN,
Consul-General.

The full tariff of Austria-Hungary was printed in Consular Reports No. 21, July, 1882, p. 493.

BELGIUM.

Customs duties collected on the following articles under the tariff laws of Belgium.

[Prepared by Consul John N. Steuart.]

Number.	Articles.	Unit.	Duty in Belgian currency.	Duty in United States currency.
1	Agricultural implements:			
	Cast-iron	100 kilos	2 francs	$0 38½
	Wrought iron or steel	do	4 francs	77¼
	Copper or other material	do	12 francs	2 31½
	Wood	Ad valorem.	10 per cent.	
2	Animals:			
	Cattle		Free	
	Hogs		do	
	Horses		do	
	Mules		do	
	Sheep		do	
	All others		do	
3	Art works		do	
4	Bark and extracts		do	
5	Blacking		do	
6	Bones, hoofs, horns		do	
7	Books, maps, engravings			
8	Brass:			
	Bar or sheet	100 kilos	10 francs	1 93
	Manufactures of	Ad valorem.	10 per cent.	
9	Breadstuffs:			
	Barley		Free	
	Bread and biscuits		do	
	Indian corn		do	
	Oats		do	
	Rye		do	
	Wheat		do	
	Flour		do	
10	Bricks		do	
11	Brooms and brushes	Ad valorem.	10 per cent.	
12	Candles	do	do	
13	Carriages	do	do	
14	Cars (horse, railroad, steam):			
	Cast-iron	100 kilos	2 francs	38½
	Wrought iron or steel	do	4 francs	77¼
	Copper or other material	do	12 francs	2 31½
15	Chemicals		Free	
16	Clocks and watches		do	
17	Coal		do	
18	Copper:			
	Ore		do	1 93
	Ingots, bar, and sheet	100 kilos	10 francs	
	Manufactures of	Ad valorem.	10 per cent	
	Except sheet, nails, and bolts for coppering of vessels.		Free	
19	Cotton		Free	
	Cotton, manufactures of, unbleached:			
	First class, weighing 11 kilograms and more per 100 square meters—			
	Of 35 threads and less per square centimeter	100 kilos	50 francs	9 65
	Of 36 threads and more per square centimeter	do	72 francs	13 89½
	Second class, weighing from 7 to 11 kilograms, exclusive, per 100 square meters—			
	Of 35 threads and less per square centimeter	do	60 francs	11 58
	Of 36 threads to 43 per square centimeter	do	100 francs	19 30
	Of 44 threads and over per square centimeter	do	180 francs	34 74
	Third class, weighing from 3 to 7 kilograms, exclusive, per 100 square meters—			
	Of 27 threads and less per square centimeter	do	80 francs	15 44
	Of 28 threads to 35 per square centimeter	do	120 francs	23 16
	Of 36 threads to 43 per square centimeter	do	190 francs	36 67
	Of 44 threads and more per square centimeter	do	300 francs	57 90
	Cotton, bleached:			
	First class, weighing 11 kilograms and more per 100 square meters—			
	Of 35 threads and less per square centimeter	do	57.50 francs	11 09½
	Of 36 threads to more per square centimeter	do	82.50 francs	15 92½

Customs duties collected on the following articles under tariff laws of Belgium—Continued.

Number.	Articles.	Unit.	Duty in Belgian currency.	Duty in United States currency.
19	Cotton, bleached—Continued.			
	Second class, weighing from 7 to 11 kilograms, exclusive, per 100 square meters—			
	Of 35 threads and less per square centimeter	100 kilos	69 francs	$13 31 7/10
	Of 36 threads to 43 per square centimeter	do	115 francs	22 19 1/2
	Of 44 threads and more per square centimeter	do	207 francs	39 95 1/10
	Third class, weighing from 3 to 7 kilograms, exclusive, per 100 square meters—			
	Of 27 threads and less per square centimeter	do	92 francs	17 75 4/5
	Of 28 threads to 35 per square centimeter	do	138 francs	26 62 1/10
	Of 36 threads to 43 per square centimeter	do	218.50 francs	42 17 7/10
	Of 44 threads and more per square centimeter	do	345 francs	66 58 1/2
	Cotton, dyed:			
	First class, weighing 11 kilograms and more per 100 square meters—			
	Of 35 threads and less per square centimeter	do	75 francs	14 47 1/2
	Of 36 threads and more per centimeter	do	97 francs	18 72 1/10
	Second class, weighing from 7 to 11 kilograms, exclusive per 100 square meters—			
	Of 35 threads and less per square centimeter	do	85 francs	16 40 1/2
	Of 36 threads to 43 per square centimeter	do	125 francs	24 12 1/2
	Of 44 threads and more per square centimeter	do	205 francs	39 56 1/4
	Third class, weighing from 8 to 7 kilograms, exclusive, per 100 square meters—			
	Of 27 threads and less per square centimeter	do	105 francs	20 26 1/4
	Of 28 threads to 35 per square centimeter	do	145 francs	27 9 3/4
	Of 36 threads to 43 per square centimeter	do	215 francs	41 49 1/2
	Of 45 threads and more per square centimeter	do	325 francs	62 72 1/2
	Cotton, printed	Ad valorem.	10 per cent.	
	Cotton thread, raw and bleached, length per ½ kilometer being as follows—			
	20,000 meters or less	100 kilos	15 francs	2 89 1/2
	20,000 meters to 30,000 meters	do	20 francs	3 86
	30,000 meters to 40,000 meters	do	30 francs	5 79
	40,000 meters to 65,000 meters	do	40 francs	7 72
	More than 65,000 meters	do	10 francs	1 93
	Dyed or warped, length per ½ kilometer being as follows:			
	20,000 meters or less	do	25 francs	4 82 1/2
	20,000 meters to 30,000 meters	do	30 francs	5 79
	30,000 meters to 40,000 meters	do	40 francs	7 72
	40,000 meters to 65,000 meters	do	50 francs	9 65
	More than 65,000 meters	do	10 francs	1 93
20	Earthen, stone, and china ware	Ad valorem.	10 per cent.	
21	Fertilizers		Free	
22	Fish		do	
23	Flax, hemp, and jute		do	
	Flax, hemp, and jute, manufactures of:			
	Hand and spindle made laces		do	
	All other tissues (including all mixed tissues in which flax, hemp, or jute predominate in weight)	Ad valorem.	10 per cent.	
	Thread		Free	
24	Fruits:			
	Fresh apples		Free	
	Almonds	100 kilos	85 francs	6 75 1/2
	Lemons, oranges, and figs	do	9 francs	1 73 1/10
	Prunes and currants	do	25 francs	4 82 1/2
	All others	Ad valorem	10 per cent.	
	Preserved with brandy	100 kilos	80 francs	15 44
	Preserved with sugar	do	25 francs	4 82 1/2
	Preserved in any other way	do	10 francs	1 93
25	Furs	do	30 francs	5 79
26	Glass, broken		Free	
	Glass, manufactures of:			
	Common, bottles, &c. (or 10 per cent. ad valorem at the choice of importer).	100 kilos	1 franc	19 3/10
	Good quality	Ad valorem	10 per cent.	
	Mirror and window glass	do	do	
27	Glucose		Free	
28	Glue		do	
29	Gunpowder	100 kilos	15 francs	2 89 1/2
30	Hair		Free	
31	Hay		do	
32	Hides and skins:			
	Raw		do	
	Goat and sheep skins, tanned, but not finished, also kid unfinished.	100 kilos	10 francs	1 93
	Dyed, varnished, lacked and morocceed, also prepared furs.	do	30 francs	5 79

Customs duties collected on the following articles under tariff laws of Belgium—Continued.

Number.	Articles.	Unit.	Duty in Belgian currency.	Duty in United States currency.
32	Hides and skins—Continued.			
	Otherwise prepared	100 kilos	15 francs	$2 89½
	Manufactures of	Ad valorem.	10 per cent.	
33	Honey	100 kilos	10 francs	1 93
34	Hops		Free	
35	Ice		do	
36	India-rubber:			
	Raw		do	
	Manufactures of	Ad valorem.	10 per cent	
37	Iron and steel:			
	Pig-iron	100 kilos	0.50 franc	09.64/100
	Manufactures of cast iron	do	2 francs	38½
	Iron, wrought or in sheets	do	1 franc	19.3/10
	Manufactures of wrought iron	do	4 francs	77½
	Cast-steel, rough	do	0.50 franc	09.64/100
	Steel in bars, sheets, or wire	do	1 franc	19.3/10
	Steel bars, finished at the ends	do	4 francs	77½
38	Jewelry (gold or silver thimbles, spectacles, and eyeglasses, free).	Ad valorem.	5 per cent	
39	Lamps:			
	Cast iron	100 kilos	4 francs	77½
	Wrought iron or steel	do	6 francs	1 15½
	All others	Ad valorem.	10 per cent	
40	Lead		Free	
	Manufactures	Ad valorem.	10 per cent	
41	Leather, manufactures of	Ad valorem.	10 per cent	
42	Lime and cement		Free	
43	Malt liquors:			
	In barrels	Hectoliter	6 francs	1 15½
	In bottles	do	7 francs	1 35.1/10
44	Medical instruments		Free	
45	Naval stores: Rosin, tar, turpentine, and pitch		do	
46	Oil cake and meal		do	
47	Oils: Animal, mineral, and vegetable		do	
48	Paraffine and wax		do	
49	Paints		do	
50	Paper, manufactures of:			
	Wall-paper	100 kilos	8 francs	1 54½
	All others	do	4 francs	77½
51	Plated ware	Ad valorem.	10 per cent	
52	Provisions:			
	Fresh meats, salt, oleomargarine, lard, butter, and cheese.		Free	
53	Quicksilver		do	
54	Seeds		do	
55	Soap	100 kilos	6 francs	1 15½
56	Spirits:			
	Wines (pay only excise duty on barrels and in bottles 23 francs, or $4.439 per hectoliter).			
	Spirits (all kinds), in barrels, at 50 degrees or less	Hectoliter	100 francs	19 30
	Spirits and liquors, in bottles	do	200 francs	38 60
	Spirits (all kinds), in barrels, for every degree over 50 degrees.	do	2 francs	38½
	Other liquors, including toilet waters prepared with alcohol.	do	134 francs	25 86½
57	Starch	do	Free	
58	Sugar:			
	Raw, first class, Nos. 15 to 18, inclusive, pay only excise duty.	100 kilos	48.07 francs	9 27½
	Raw, second class, Nos. 10 to 15, exclusive, pay only excise duty.	do	45 francs	8 68½
	Raw, third class, Nos. 7 to 10, exclusive, pay only excise duty.	do	40.91 francs	7 89.46/100
	Raw, fourth class, under No. 7, pay only excise duty.	do	34.26 francs	6 61.41/100
	Molasses containing 50 per cent. or more of saccharine matter, and manufactured sirups containing crystallizable sugar, are classed as raw sugar and submitted to an excise duty.			
	Refined—			
	Crystallized	do	54.70 francs	10 55.71/100
	In loaves	do	51.13 francs	9 86.91/100
	Over No. 18	do	do	9 86.91/100
	(Caramalized or burnt sugars, also other sirups than those obtained through the manufacture or refining of sugar, further sugar plums, burnt sugar-almonds, lozenges, and other preparations of sugar of similar nature are submitted to the same rate of duty as refined sugar.)			

Customs duties collected on the following articles under tariff laws of Belgium—Continued.

Number.	Articles.	Unit.	Duty in Belgian currency.	Duty in United States currency.
58	Sugar—Continued.			
	Sirups and molasses—			
	Molasses, uncrystallizable, being obtained through the manufacture or the refining of sugar, containing less than 50 per cent. of saccharine matter.	100 kilos	15 francs	$2 89½
	Those imported for distilling purposes		Free	
59	Tin:			
	In sheets		Free	
	Manufactures of	Ad valorem	10 per cent.	
60	Tobacco:			
	Leaf	100 kilos	70 francs	13 51
	Ribs (côtes)	do	15 francs	2 89½
	Cigars	do	300 francs	57 90
	Cigarettes and other manufactures	do	100 francs	19 30
61	Vegetables		Free	
62	Wood:			
	Oak or walnut	Cubic meter.	1 franc	19 3/10
	Building and cabinet oak and walnut excepted, in the bark or unsawn.	do	3 francs	57 9/10
	Sawn, more than 5 centimeters thick	do	6 francs	1 15 8/10
	Sawn, 5 centimeters thick or less	do	9 francs	1 73 7/10
	Other woods, including those cut for staves and boxes, oak and walnut excepted.		Free	
	Common broom-handles		do	
	Casks		do	
	All other manufactures of	Ad valorem	10 per cent.	
63	Wool:			
	Raw		Free	
	Manufactures of—			
	Shawls and scarfs of India cashmere	Ad valorem	5 per cent	
	All others, including mixed tissues, where wool predominates in weight.	do	10 per cent.	
	(On the last named the importer has the option to pay 260 francs, or $50.18 per 100 kilograms.)			
64	Zinc		Free	

DENMARK.

Customs duties of Denmark.

[Prepared by Consul Henry B. Ryder.]

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
1	Agricultural implements (at owner's option), 10 per cent. ad valorem:				
	Or if made of coarse iron or steel	100 lbs	*Kronen.* 2.10	Cwt	$0.5712
	Or of polished iron, or steel, or wood	do	6.25	do	1.7001
2	Animals:				
	Cattle, hogs, horses, mules, sheep, and all others		Free.		
3	Art works		Free.		
4	Bark:				
	For tanners' or dyers' use		Free.		
	For druggists' use	100 lbs	4.20	Cwt	1.1424
	Extracts of, for dyers' use	do	10.25	do	2.7882
5	Blacking	100 lbs. gross.	4.20	do	1.1424
6	Bones, hoofs, horns, &c.:				
	Raw		Free.		
	Burnt, for dyers' use	100 lbs	2.10	Cwt	0.5712
	Manufactures of	do	33.33	do	9.0672
7	Books:				
	Printed		Free.		
	Of writing paper, clean	100 lbs	33.33	Cwt	9.0672
	Maps, engravings, &c.—				
	Without printed text	do	33.33	do	9.0672
	With printed text	do	16.66	do	4.5336
8	Brass:				
	Sheets, nails, bars	do	6.25	do	1.7001
	Manufactures of, polished	do	33.33	do	9.0672
	All other	do	16.66	do	4.5336
9	Breadstuffs:				
	Barley, Indian corn, oats, rye, wheat, flour		Free.		
	Bread and buscuit, without sugar		Free.		
	Bread and buscuit, with sugar	100 lbs	14.66	Cwt	3.9895
10					
11	Brooms and brushes:				
	With coarse wood or metal	100 lbs	8.33	Cwt	2.2668
	Others	do	33.33	do	9.0672
12	Candles:				
	Of tallow	do	6.25	do	1.7001
	Others	do	12.50	do	3.4002
13	Carriage, horse-cars:				
	Covered in or partly covered	Each	60.00	Each	16.0800
	Others	do	24.00	do	6.4320
	Cars, &c.	100 lbs	6.25	Cwt	1.7001
14	Cars (railroad or steam):				
	For passengers or tenders	Each	300.00	Each	80.4000
	Others	do	100.00	do	26.8000
	Locomotives	do	1,000.00	do	268.0000
15	Chemicals:				
	For druggists	100 lbs	4.20	Cwt	1.1424
	Coarse		Free.		
16	Clocks and watches:				
	For pockets	Each	1.00	Each	0.2680
	For house use	100 lbs	33.33	Cwt	9.0672
	For tower use	do	16.66	do	4.5336
17	Coals, per barrel, of about	3 cwt	0.15	Ton of 20 cwt.	0.2680
18	Copper:				
	Ore, ingots		Free.		
	Bars, sheets	100 lbs	6.25	Cwt	1.7001
19	Cotton:				
	Raw, &c		Free.		
	Manufactures of—				
	Coarse	100 lbs	12.50	Cwt	3.4002
	Others	do	25.00	do	6.8004
	Printed	do	66.66	do	18.1344
	Printed, fine	do	100.00	do	26.8000

Customs duties of Denmark—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
	Cotton yarn:		*Kronen.*		
	Fancy, colored	100 lbs	50.00	Cwt	$13.6008
	Uncolored	do	6.25	do	1.7001
	Colored	do	16.66	do	4.5336
20	Earthen, stone, china ware:				
	Without decorations	do	6.25	do	1.7001
	With decorations	do	16.66	do	4.5336
	Fancy, colored	do	33.33	do	9.0672
21	Fertilizers		Free.		
22	Fish:				
	Alive and uncured		Free.		
	Dried or salted, &c	100 lbs	6.25	Cwt	1.7001
23	Flax, hemp, jute:				
	Unbleached or unmanufactured		Free.		
	Manufactures of, same as per No. 19		Free.		
24	Fruits:				
	Preserved in vinegar or salt	100 lbs	2.10	Cwt	0.5712
	Preserved in sugar or cans	do	14.66	do	3.9895
	Dried	do	1.66	do	0.4514
	Oranges, &c., fresh	do	3.15	do	0.8568
	Grapes, &c., fresh	do	14.66	do	3.9895
25	Furs:				
	Ready-made	do	33.33	do	9.0672
	Others	do	25.00	do	6.8004
26	Glass:				
	Bottles	do	3.15	do	0.8568
	Glass wares in connection with metal	do	33.33	do	9.0672
	In panes, under 800 square inches	do	16.66	do	4.5336
	In panes, from 800 to 1,800 square inches	do	25.00	do	6.8004
	In panes, above 1,800 square inches	do	33.33	do	9.0672
	All other glasswares	do	14.66	do	3.9895
27	Glucose	do	8.33	do	2.2668
28	Glue	do	6.50	do	1.7682
29	Gunpowder	100 lbs. gross.	8.33	do	2.2668
30	Hair:				
	Raw or unmanufactured		Free.		
	Manufactured (human)	100 lbs	400.00		107.2000
31	Hay		Free.		
32	Hides and skins:				
	Raw		Free.		
	Manufactured or dyed	100 lbs	25.00	Cwt	6.8004
	Skins for gloves	do	150.00	do	40.8000
33	Honey:				
	Brown	do	4.75	do	1.2921
	White	do	8.50	do	2.3121
34	Hops	do	14.66	do	3.9895
35	Ice, raw, 10 per cent. ad valorem.				
36	India-rubber manufactures:				
	Blocks, sheets, strops, &c	do	10.25	do	2.7882
	Others manufactured	do	33.33	do	9.0672
37	Iron:				
	Steel for melting		Free.		
	Manufactures—				
	Bars, rails, hoops	100 lbs	0.50	Cwt	0.13600
	Galvanized and others—				
	Coarse	do	2.10	do	0.5712
	Fine	do	6.25	do	1.7001
	Fancy	do	33.33	do	9.0672
38	Jewelry	do	33.33	do	9.0672
39	Lamps, according to the material of which same is made.				
40	Lead:				
	For melting		Free.		
	Sheets, bars, shots, wire, &c	100 lbs	2.10	Cwt	0.5712
	Others, polished or silvered, &c	do	33.33	do	9.0672
	Others, coarse	do	16.66	do	4.5336
41	Leather. (See No. 32, Hides and Skins.)				
42	Lime and cement		Free.		
43	Malt liquors:				
	In bottles	Pot	0.50	Gallon	0.6700
	In casks or jars	do	0.30	do	0.4020
44	Medical instruments	100 lbs	33.33	Cwt	9.0672
45	Naval stores:				
	Rosin	do	0.50	do	0.1360
	Tar	Barrel	1.20	Barrel	0.3216
	Turpentine and pitch	100 lbs	0.50	Cwt	0.1360
46	Oil cake and meal		Free.		

Customs duties of Denmark—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
			Kroner.		
47	Oils:				
	Animal (perfumed)	100 lbs.	33.33	Cwt	$9.0672
	Mineral, and others	do	4.10	do	1.1153
	Vegetable (linseed, &c.)		Free.		
48	Paraffine and wax	100 lbs.	6.25	Cwt	1.7001
	Wax manufactures	do	33.33	do	9.0672
49	Paints:				
	Indigo, cochineal	do	29.20	do	7.9480
	Others, in oil or varnish	do	10.25	do	2.7882
	Other	do	2.10	do	0.5712
50	Paper:				
	Coarse	do	1.05	do	0.2856
	Fine	do	5.10	do	1.3873
	Manufactures, decorated	do	16.66	do	4.5336
	Manufactures, fancy	do	33.33	do	9.0672
51	Plated ware	do	33.33	do	9.0672
52	Provisions:				
	Meat, all sorts, in usual packing		Free.		
	Meat, all sorts, in cans	100 lbs.	14.66	Cwt	3.9895
	Oleomargarine	do	6.25	do	1.7001
	Lard and butter		Free.		
	Cheese	100 lbs.	10.25	Cwt	2.7882
53	Quicksilver		Free.		
54	Seeds		Free.		
	Seeds of mustard	100 lbs.	6.25	Cwt	1.7001
55	Soap:				
	Fancy	do	33.33	do	9.0672
	Common	do	2.10	do	0.5712
56	Spirits:				
	In bottles	Pot.	0.50	Gallon	0.6700
	In casks or jars	do	0.25	do	0.3350
57	Starch:				
	From grain or potatoes		Free.		
	From rice	100 lbs.	4.20	Cwt	1.1424
58	Sugar	do	14.00	do	3.8083
	Molasses	do	4.75	do	1.2921
59	Tin:				
	For melting		Free.		
	Sheets, bars, shots, wire, &c.	100 lbs.	2.10	Cwt	0.5712
	Polished or silvered	do	33.33	do	9.0672
	Others, coarse	do	16.66	do	4.5336
60	Tobacco:				
	Leaves	do	14.66	do	3.9895
	Cigars	do	83.80	do	22.7902
	Cigarettes, in paper	do	20.80	do	5.6580
61	Vegetables		Free		
	Salted or preserved in vinegar	100 lbs.	2.10	Cwt	0.5712
	In cans	do	14.66	do	3.9895
62	Wood:				
	In full and complete cargo	Reg. ton.	3.50	Reg. ton.	0.9380
	Firewood, or pieces under 2 feet		Free.		
	For druggists' use	100 lbs.	4.20	Cwt	1.1424
	Manufactures of—				
	Furniture, &c.	do	14.66	do	3.9895
	Fancy work	do	33.33	do	9.0672
	Coarse for building	Cu. feet.	0.12	Cu. feet.	0.0322
63	Wool		Free.		
	Manufactures of, same as Nos. 19.				
64	Zinc. Same as per Nos. 40 and 59.				

NOTE.—The Danish tariff rate of duty is still in rigsdaler, mark, and skilling, consequently a very small difference arises in the reduction of the foregoing rates to kroner and ore. One centner-weight English is equal to 101½ Danish pounds.

FRANCE.

Tariff of France on products and manufactures of the United States.

[Prepared by Consul-General Walker.]

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
1	Agricultural implements:					
	Machines (not including steam-motors), mowers, reapers, plows, cultivators, &c.	100 kilos..	6.00	$0 52	100 lbs....	Net.
	Steam boilers, sheet iron, cylindrical or spherical.	....do	8.00	70	....do	Net.
	Steam boilers, sheet iron, other	....do	12.00	1 05	....do	Net.
	Steam boilers, steel sheet—all shapes	....do	25.00	2 19	....do	Net.
	Tools, handled or not; axes, forks, spades, &c.—					
	In pure iron	....do	10.00	88½	....do	Gross.
	Iron and steel	....do	15.00	1 31	....do	Net.
	Steel	....do	20.00	1 75	....do	Net.
	Copper	....do	20.00	1 75	....do	Net.
2	Animals:					
	Horses—					
	Stallions or geldings, and mares	Head	30.00	5 19	Head	
	Colts	....do	18.00	3 47	....do	
	Mules	....do	5.00	96½	....do	
	Asses	.....	Free	.....	.....	
	Cattle—					
	Oxen	Head	25.00	4 82½	Head	
	Cows	....do	12.00	2 32	....do	
	Bulls	....do	12.00	2 32	....do	
	Steers, bullocks, and heifers	....do	8.00	1 54	....do	
	Calves	....do	4.00	77	....do	
	Rams, ewes, and wethers	....do	3.00	58	....do	
	Lambs	....do	1.00	19	....do	
	Goats and kids	....do	1.00	19	....do	
	Pigs	....do	6.00	1 16	....do	
	Sucking pigs	....do	1.00	19	....do	
	Game—poultry, turtles	100 kilos..	20.00	1 75	100 lbs....	Net.
	Other, not specially enumerated	.....	Free	.....	.....	
3	Art works	.....	Free	.....	.....	
4	Bark and extracts for tanning and dyeing	.....	Free	.....	.....	
5	Blacking	100 kilos..	4.00	35	100 lbs....	Gross.
6	Bones and bone-black	.....	Free	.....	.....	
	Horns of cattle, raw	.....	Free	.....	.....	
	Horns, prepared or in sheets	100 kilos ..	3.00	26	100 lbs....	Gross.
7	Books, maps, engravings, &c	.....	Free	.....	.....	
8	Brass, and manufactures of	100 kilos..	20.00	1 75	100 lbs....	Net.
9	Breadstuffs:					
	Barley	....do	1.50	13	....do	Gross.
	Barley—flour	.....	Free	.....	.....	
	Bread	100 kilos..	1.20	10	100 lbs....	Gross.
	Biscuit—					
	Sea, or mixed with extract of meat	....do	5.50	48	....do	Gross.
	Ginger, anise-seed, &c	....do	15.50	1 31	....do	Gross.
	Sweet	....do	35.50	3 06	....do	Gross.
	Indian corn (grain and flour)	.....	Free	.....	.....	
	Oats	100 kilos..	1.50	13	100 lbs....	Gross.
	Oatmeal	.....	Free	.....	.....	
	Rye	100 kilos..	1.50	13	100 lbs....	Gross.
	Rye—flour	.....	Free	.....	.....	
	Wheat	100 kilos..	3.00	26	100 lbs....	Gross.
	Wheat—flour	....do	6.00	53	....do	Gross.
10	Bricks—building and fire	1,000	1.00	19	1,000	
11	Brooms:					
	Straw, birch, &c.; common, without handles.	.....	Free	.....	.....	
	Straw, birch, &c., common, with handles	100 kilos..	4.00	35	100 lbs....	Net.
	Of piassava, for street-sweeping	....do	7.00	61	....do	Net.
	Set in wood, vegetable, with or without handles.	....do	37.50	3 28	....do	Net.
	Set in wood, bristles or hair, with or without handles.	....do	75.00	6 57	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty	uty.	Unit.	
11	Brooms—Continued.		*France.*			
	Brushes—					
	Common, mounted in wood, with vegetable or whalebone fibers.	100 kilos ..	37.50	$3 28	100 lbs....	Net.
	Common, mounted in wood, with bristles or horse-hair.	....do	75.00	6 57	....do	
	Fine, mounted in bone, ivory, or metal.	....do	125.00	10 94	....do	Net.
12	Candles:					
	Spermaceti, paraffine, or wax, all kinds..	....do	*19.00	1 66	....do	Net.
	Stearine, having wicks twisted, woven, or plaited, and chemically prepared.	....do	*12.00	1 05	....do	Net.
	Other, common	....do	6.00	53	....do	Gross
13	Carriages:					
	Weighing 125 kilograms (276 pounds) or more.	....do	50.00	4 38	....do	Net.
	Weighing less than 125 kilograms, including velocipedes.	....do	120.00	10 51	....do	Net.
	Vehicles for commerce, agriculture, &c., on springs.	....do	12.00	1 05	....do	Net.
	Vehicles, not on springs.....	....do	6.00	53	....do	Gross.
14	Cars, railway:					
	First-class carriages for ordinary tracks..	....do	16.00	1 40	....do	Net.
	Second and third class carriages for ordinary tracks.	....do	11.00	96	....do	Net.
	Freight cars for ordinary tracks	....do	9.00	79	....do	Gross.
	Passenger carriages for narrow tracks (47 inches wide or less).	....do	20.00	1 75	....do	Net.
	Freight cars for narrow tracks.....	.... o	10.00	88	....do	Gross.
	Tramways carriages—					
	For ordinary tracks.....	....do	20.00	1 75	....do	Net.
	For narrow tracks	....do	25.00	2 19	....do	Net.
	Gravel cars.....	....do	5.00	44	....do	Gross.
15	Chemicals, drugs, dyes, and medicines:					
	Bromine and bromide of potassium	....do	100.00	8 75	....do	Net.
	Iodine, crude or refined	....do	400.00	35 02	....do	Net.
	Iodide of potassium	....do	350.00	30 64	....do	Net.
	Phosphorus—					
	White.....	....do	50.00	4 38	....do	Net.
	Red	....do	149.00	13 04	....do	Net
	Acids—					
	Arsenic.....	.....	Free	.....	.....	
	Benzoic	100 kilos ..	124.00	10 86	100 lbs ...	Net.
	Boric	.....	Free.	.....	.....	
	Hydrochloric	100 kilos ..	.37	03	100 lbs...	Gross.
	Citric, liquid, up to 10°, inclusive....	.....	Free	.....	.....	
	Citric, liquid, from 10° to 35°, inclusive	100 kilos ..	6 00	53	100 lbs....	Gross
	Citric, liquid, over 35°.....	....do	15.00	1 31	....do	Net.
	Citric, crystallized.....	...do	50.00	4 38	...do	Net.
	Gallic, liquid.....	....do	1.20	10	...do	Gross.
	Gallic, crystallized.....	....do	93 00	8 14	...do ...	Net.
	Nitric	....do	2 50	22	... do	Gross.
	Oleic.....	....do . ..	5.00	44	....do	Gross.
	Oxalic	... do	12.50	1 09	....do	Net.
	Phosphoric	....do	20.00	75	.. do	Net.
	Stearic	...do	10.00	88	....do	Gross.
	Sulphuric.....	.....	Free	.....	.....	
	Tartaric	100 kilos ..	10.00	88	100 lbs....	Gross.
	Oxides—					
	Cobalt, copper, iron, lead (except minium) tin, uranium, zinc.	....	Free.	.....	.....	
	Minium	100 kilos ..	2.00	18	100 lbs....	Gross.
	Ashes, vegetable, crude or washed...	.....	Free ...	.....	.....	
	Potash and carbonate of potash.....	.....	Free	.....	.....	
	Ashes of beet-root molasses	100 kilos .	0.13	01	100 lbs....	Gross.
	Soda of varec (sea wrack).....	....do	0.19	02	.. .do	Gross.
	Soda, caustic	....do	8.00	70	....do	Gross.
	Soda, natural or artificial (carbonate soda)—					
	Crude, over 30° in strength	... do	2.30	20	....do	Gross.
	Crude, under 30°	....do	7.25	63	....do	Gross.
	Refined (salts of soda) over 60° ..	....do	5.00	44	....do	Gross.
	Refined (salts of soda) under 60°.	....do	17.50	1 53	....do	Net.
	Refined, crystallized (soda crystals).	....do	2.30	20	....do	Gross.
	Natron.....	....do	2.30	20	....do	Gross.

* Not including the internal revenue taxes, amounting to 30 francs per 100 kilograms ($2.63 per cwt.).

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
15	Chemicals, drugs, dyes, &c.—Continued.					
	Oxides—Continued.		*Francs.*			
	Bi carbonate of soda	100 kilos	5.20	$0 46	100 lbs	Gross.
	Salts of soda, not denominated	do	4.35	38	do	Gross.
	Salt, marine or rock, crude or refined, other than white.	do	*2.10	*18	do	Gross.
	Salt, refined, white	do	3.30	29	do	
	Salts, ammoniacal—					
	Hydrochlorate (sal ammoniac) crude.	do	8.00	70	do	Gross.
	Hydrochlorate (sal ammoniac), refined.	do	12.00	1 05	do	Net.
	Sulphate, ammonia, crude		Free			
	Sulphate, ammonia, refined	100 kilos	7.75	68	100 lbs	Gross.
	Other salts, ammonia, crude	do	3.00	26	do	Gross.
	Other salts, ammonia, refined	do	7.75	68	do	Gross.
	Cobalt, salts of		Free			
	Silver, salts of	100 kilos	930.00	81 42	100 lbs	Net.
	Tin, salts of	do	10.00	88	do	Gross.
	Acetate of—					
	Copper, crude	do	10.00	88	do	Gross.
	Copper, refined, in powder	do	14.50	1 27	do	Net.
	Copper, crystals, refined	do	21.00	1 84	do	Net.
	Iron, liquid		Free			
	Iron, concentrated	100 kilos	10.50	88	100 lbs	Gross.
	Lead (sugar of lead)	do	5.50	48	do	Gross.
	Potash	do	22.00	1 93	do	Net.
	Soda, anhydrous	do	5.00	44	do	Gross.
	Soda, crystallized or hydrated	do	4.75	42	do	Gross.
	Alcohol—					
	Amylic	do	6.25	55	do	Gross.
	Methylic	do	9.25	81	do	Gross.
	Aluminate of soda	do	13.50	1 18	do	Net.
	Alum of ammoniac or of potash, and sulphate of alumine.	do	1.50	13	do	Gross.
	Ammoniac (volatile alcali)	do	3.00	26	do	Gross.
	Arseniate of potash	100 kilos	8.75	77	100 lbs	Gross.
	Arseniate of soda	do	4.25	37	do	Gross.
	Borax—					
	crude	do	8.75	77	do	Gross.
	refined	do	10 00	88	do	Gross.
	Carbonate of magnesia	do	6.25	55	do	Gross.
	Carbonate of lead	do	2.00	18	do	Gross.
	Citrate of lime	do	7.50	66	do	Gross.
	Chlorate of potash, soda, baryta, and others	do	32.00	2 80	do	Net.
	Chloride of aluminum	do	200.00	17 51	do	Net.
	Chloride, double, of aluminum and sodium	do	18.50	1 62	do	Net.
	Chloride of lime	do	4.00	35	do	Gross.
	Chloride of magnesium	do	.50	04	do	Gross.
	Chloride of potash		Free			
	Chromate of potash	100 kilos	10.00	88	100 lbs	Gross.
	Chromate of lead	do	16.00	1 40	do	Net.
	Glycerine—					
	Crude	do	4.75	42	do	Gross.
	Refined	do	7.50	66	do	Gross.
	Kermes, liver of antimony, crocus and other oxides or salts of antimony, excepting emetic.	do	25.00	2 19	do	Net.
	Lactate of iron	do	43.00	3 77	do	Net.
	Magnesia, calcined	do	18.50	1 62	do	Net.
	Nitrate of potash (saltpeter) and of soda		Free			
	Oxalate of potash	100 kilos	12.50	1 09	100 lbs	Gross.
	Silicate of soda—					
	Anhydrous	do	4.25	37	do	Net.
	Crystallized	do	3.75	33	do	Gross.
	Hydrated	do	2.10	18	do	Gross.
	Sulphate of copper	do	3 00	26	do	Gross.
	Sulphate of iron	do	.65	06	do	Gross.
	Sulphate, double, of copper and iron	do	.50	04	do	Gross.
	Sulphate of soda—					
	Pure, anhydrous, containing 25 per cent. or less of salt.	do	2.20	19	do	Gross.
	Pure, anhydrous, containing more than 25 per cent. of salt.	do	9.00	79	do	Gross.
	Pure, crystallized or hydrated (Glauber's salt).	do	1.20	10	do	Gross.

* Not including taxes of internal consumption.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or or gross.
		Unit.	Duty.	Duty.	Unit.	
15	Chemicals, drugs, dyes, &c.—Continued.					
	Sulphate of soda—Continued.		*Francs.*			
	Impure, anhydrous, containing 25 per cent. or less of salt.	100 kilos ..	2.20	$0 19	100 lbs	Gross.
	Impure, anhydrous, containing more than 25 per cent. of salt.	....do	8.25	72	....do	Gross.
	Impure, crystallized or hydrated, (Glauber's salt).	....do	1.10	10	....do	Gross.
	Sulphate of zinc	....do	1.40	12	....do	Gross.
	Sulphite of soda	....do	2.20	19	....do	Gross.
	Hyposulphite of soda	....do	4.75	42	....do	Gross.
	Sulphuret of arsenic, 5 per cent. ad valorem.					
	Sulphuret of mercury—					
	Natural (cinnabar)	100 kilos ..	Free			
	Artificial (in stones)	....do	31.00	2 71	100 lbs ...	Net.
	Pulverized (vermilion)	....do	62.00	5 43	....do	Net.
	Tartrate of potash, including the double tartrate of potash and soda.	.....	Free			
	Prussiate of potash—					
	Yellow	100 kilos ..	20.00	1 75	100 lbs	Net.
	Red	....do	30.00	2 63	....do	Net.
	Chemical products of tar and coal (coal oil, benzine, and other light oils, heavy oils, nitro-benzine, aniline, phenic acid, naphthaline, anthracine, and others not mentioned.	.....	Free			
	All other chemical products not mentioned, including extracts of Peruvian bark, and phosphoric paste, 5 per cent. ad valorem					
	Dyeing articles in a crude state	.....	Free			
	Extracts of dye woods and of other dye-stuffs:					
	Alizarine (artificial madder) 5 per cent. ad valorem.					
	Annato	.....	Free			
	Archil paste (moist)	100 kilos ..	5.00	44	100 lbs	Gross.
	Archil, dry (cudbear)	....do	10.00	88	....do	Gross.
	Catechu	.....	Free			
	Cochineal	.....	Free			
	Garancine and other extracts of madder.	.....	Free			
	Indigo	.....	Free			
	Kermes, animal	.....	Free			
	Lack-dye	.....	Free			
	Quercitron	.....	Free			
	Turnsole	.....	Free			
	Other extracts—					
	Black and violet	100 kilos ..	20.00	1 75	100 lbs	Net.
	Red and yellow	....do	30.00	2 63	....do	Net.
	Dyes, products of coal tar—					
	Dry	....do	125.00	10 94	....do	Net.
	In paste, containing at least 50 per cent. of water.	....do	70.00	6 13	....do	Net.
	Picric acid	....do	25.00	2 19	....do	Net.
	Drugs and medicines—					
	Aloes	....do	6.00	53	....do	Gross.
	Camphor, crude	....do	2.00	18	....do	Gross.
	Camphor, refined	....do	4.00	35	....do	Gross.
	Licorice	.....	10.00	88	....do	Gross.
	Gums	100 kilos ..	Free			
	Manna	....do	8.00	70	100 lbs	Gross.
	Opium	....do	240.00	21 01	...do	Net.
	Turpentine, essence of	....do	5.00	44	....do	Gross.
	Medicinal preparations, the introduction of which into France must be authorized by the Government, shall pay specific duties, to be decided by the High School of Pharmacy, rating at 10 per cent. ad valorem, exclusive of the duties which may be fixed on medicaments composed of dutiable substances, either by the custom-house or internal revenue.					

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
15	Chemicals, drugs, dyes, &c.—Continued.					
	Drugs and medicines—Continued.		*Francs.*			
	Roots, herbs, leaves, flowers, barks, and lichens, medicinal.	100 kilos ..	3.00	$0 26	100 lbs	Gross.
	Fruits and seeds preserved in sugar	....do	62.50	5 47	....do	Net.
	Fruits and seeds not preserved in sugar	.....	Free	.....	.....	
	Mineral water (jugs included)	.....	Free	.....	.....	
16	Clocks and watches:					
	Clocks:					
	For furniture, wood	100 kilos ..	15.00	1 31	100 lbs	Net.
	For furniture, other	....do	25.00	2 19	....do	Net.
	For public buildings	....do	10.00	88	....do	Gross.
	Musical	....do	60.00	5 25	....do	Net.
	Movements and time-pieces	....do	50.00	4 38	....do	Net.
	Watches:					
	In goldcases	Each	4.50	87	Each	
	In silver cases	... do	1.50	29	....do	
	In common metal cases	... do	1.00	19	....do	
	Watch cases:					
	Separate, gold	....do	1.20	23	....do	
	Silver or common metal	... do	.50	10	....do	
	Watch movements:					
	Gilded, nickeled, or finished	....do	2.50	48	....do	
	Other, finished or not finished	... do	20	04	....do	
	Watch materials, not specially enumerated.	100 kilos ..	50.00	4 38	100 lbs	Net.
	Counters, pedometers, &c	Each	1.00	19	Each	
17	Coal	100 kilos ..	.12	01	100 lbs	Gross.
17½	Coffee:					
	Berries and nibs	....do	156.00	13 66	....do	Net.
	Roasted or milled	....do	208.00	18 21	....do	Net.
	Cocoa—			9 11	....do	Net.
	Beans	....do	104.00			
	Crushed, in paste, tablet, or powder	....do	135.00	11 82	....do	Net.
	Chocolate	....do	93.00	8 14	....do	Net.
18	Copper:					
	Ore	.....	Free	.....	.....	
	Pure or alloyed with zinc or tin—					
	Rolled or hammered in bars or plates	100 kilos ..	10.00	88	100 lbs	Gross.
	Wires of whatever size, polished or not, but neither gilt nor silvered.	....do	10.00	88	.. do	Gross.
	Gilt or silvered, in masses or ingots, hammered, drawn, rolled, or spun with thread or silk.	....do	100.00	8 75	....do	Net.
	Filings and old scrap copper	.....	Free	.....	.....	
	Boilers and apparatus for distilling and heating purposes.	100 kilos ..	10.00	88	100 lbs	Net.
	Cylinders for printing, engraved or not engraved.	... do	15.00	1 31	....do	Net.
	Wire cloth and metallic gauze	....do	20.00	1 75	....do	Net.
	Pure or alloyed with zinc or tin, manufactures of: Smith's works, works of art, ornaments and other works.	....do	20.00	1 75	....do	Net.
19	Cotton and manufactures of:					
	Cotton, raw	.....	Free	.....	.....	
	Cotton wadding	100 kilos ..	10.00	88	100 lbs	Gross.
	Cotton fabrics, pure, unbleached:					
	Weighing 11 kilograms and over to the 100 square meters, and containing in warp and filling, in spaces of 5 square millimeters—					
	30 threads or under	....do	62.00	5 43	....do	Net.
	31 threads or over	....do	100.00	8 75	....do	Net.
	Weighing from 7 to 11 kilograms—					
	35 threads or less	... do	95.00	8 32	....do	Net.
	36 threads to 43 threads	....do	125.00	10 94	....do	Net.
	44 threads and over	....do	250.00	21 89	....do	Net.
	Weighing from 5 to 7 kilograms—					
	27 threads or under	... do	100.00	8 75	....do	Net.
	28 to 35 threads	....do ...	145.00	12 69	....do	Net.
	36 to 43 threads	... do	235.00	20 57	....do	Net.
	44 threads or more	....do	300.00	26 26	....de	Net.
	Weighing from 3 to 5 kilograms—					
	27 threads or less	....do	230.00	20 14	....do	Net.
	28 to 35 threads	....do	300.00	26 26	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
19	Cotton and manufactures of—Continued.					
	Cotton fabrics, pure, unbleached—Cont'd.					
	Weighing from 3 to 5 kilograms—		*Francs.*			
	36 to 43 threads	100 kilos..	410.00	$35 89	100 lbs....	Net.
	44 threads or more	....do	625.00	54 72	....do	Net.
	Weighing less than 3 kilograms	....do	670.00	58 65	....do	Net.
	Weighing 11 kilograms and over to the 100 square meters, and containing in warp and filling, in spaces of 5 square millimeters:					
	30 threads or less	....do	71.30	6 24	....do	Net.
	31 threads or more	....do	115.00	10 07	....do	Net.
	Weighing from 7 to 11 kilograms—					
	25 threads or less	... do	109.25	9 57	....do	Net.
	26 to 43 threads	....do	143.75	12 58	....do	Net.
	44 threads and more	....do	287.50	25 17	....do	Net.
	Weighing from 5 to 7 kilograms—					
	27 threads or less	....do	115.00	10 07	....do	Net.
	28 to 35 threads	... do	168.75	14 60	....do	Net.
	36 to 43 threads	....do	270.25	23 66	....do	Net.
	44 threads or more	....do	345.00	30 20	....do	Net.
	Weighing from 3 to 5 kilograms—					
	27 threads or less	... do	264.50	23 15	....do	Net.
	28 to 35 threads	....do	345.00	30 20	....do	Net.
	36 to 43 threads	... do	471.50	41 28	....do	Net.
	44 threads or more	....do	718.75	62 92	....do	Net.
	Weighing less than 3 kilograms	....do	770.50	67 45	....do	Net.
	(In counting the threads in the warp and woof the fractions of threads are not counted.)					
	Cotton fabrics, pure, dyed—					
	In Turkey red, duties on unbleached augmented 60 francs per 100 kilograms ($5.25 per 100 lbs.).					
	In other dyes, duties on unbleached augmented 30 francs per 100 kilograms ($2.63 per 100 lbs.).					
	Cotton fabrics, pure, printed on other ground than Turkey red (100 meters long by not more than 1 meter wide) are liable to the duties on unbleached fabrics, according to sort, augmented as follows—					
	For linings	100 meters.	2.50	39	100 meters.	
	For other prints of one and two colors	....do	3.75	72	....do	
	For other prints of three to six colors	....do	6.25	1 21	....do	
	For all other prints of seven or more colors.	....do	10.00	1 63	....do	
	Where the width of the goods exceeds one meter the duty shall be proportionately increased.)					
	Cotton fabrics printed on ground of Turkey red are liable to the duties on unbleached fabrics, according to the sort augmented, 1st, of 60 francs per 100 kilograms ($5.25 per 100 lbs.); 2d, of the additional duty applied to other goods.					
	Cotton velvets (imitation of silk)—					
	Unbleached	100 kilos..	143.00	12 52	100 lbs.....	Net.
	Dyed or printed	....do	174.00	15 23	....do	Net.
	Cotton velvets, other (cords, mole skins, &c.)—					
	Unbleached	....do	100.00	8 75	....do	Net.
	Dyed or printed	....do	131.00	11 47	....do	Net.
	Cotton fabrics manufactured in whole or in part of dyed yarn, duty on unbleached augmented 60 francs per 100 kilograms ($5.25 per 100 lbs.).					
	Brilliants, cotton, unbleached, same duty as plain unbleached fabrics, according to sort, augmented 10 per cent.					

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
19	Cotton and manufactures of—Continued.					
	Brilliants, cotton, bleached or dyed, same duty as bleached or dyed fabrics, according to sort, augmented 10 per cent.					
	Covers, quilts, reps, cotton, unbleached—		*Francs.*			
	Weighing more than 18 kilograms to the 100 square meters.	100 kilos ..	125.00	$10 94	100 lbs	Net.
	Weighing 18 kilograms or less	....do	180.00	15 76	....do	Net.
	Bleached—					
	Weighing more than 18 kilograms	.. do	143.75	12 58	....do	Net.
	Weighing 18 kilograms or less...	....do	207.00	18 12	....do	Net.
	Dyed in Turkey red—					
	Weighing more than 18 kilograms	...do	185 00	16 20	....do	Net.
	Weighing 18 kilograms or less	....do	240.00	21 01	....do	Net.
	Dyed in other dyes—					
	Weighing more than 18 kilogram	.. do	155.00	13 57	....do	Net.
	Weighing 18 kilograms or less	...do	210.00	18 38	....do	Net.
	Dimity, damask, and table cloth—					
	Unbleached	...do	114.00	9 98	....do	Net.
	Bleached	.. do	131.10	11 48	....do	Net.
	Dyed in Turkey red	...do	174.00	15 23	....do	Net.
	Dyed, other	...do	144.00	12 61	....do	Net.
	Guipure lace for furniture—					
	Unbleached	...do	185.00	16 20	....do	Net.
	Bleached	.. do	212.75	18 62	....do	Net.
	Dyed in Turkey red.....	. do	245.00	21 45	....do	Net.
	Dyed, other.....	.. do	215.00	18 83	....do	Net.
	Blankets, quilts.....	...do	68.00	5 95	....do	Net.
	Hosiery (cotton or chints thread)—					
	Gloves.....	...do	1,000.00	875 44	....do	Net.
	Other, cut and seamless.....	.. do	125.00	10 94	....do	Net.
	Other, finished.	.. do	300.00	26 26	....do	Net.
	Trimmings of pure cotton.....	.. do	236.00	20 66	....do	Net.
	Ribbons, of pure cotton.....	....do	124.00	10 86	....do	Net.
	Tulle—					
	Large bobbins, rated less than 7 meshes to the square centimeter.	...do	406.00	43 25	....do	Net.
	Small bobbins net, 7 meshes or more to the square centimeter.	.. do	700.00	61 28	....do	Net.
	Embroidery made by hand, and gauze, fancy figured.	....do	680.00	54 28	....do	Net.
	Laces and cloud laces, whether made by hand or machinery.	....do	495.00	43 33	....do	Net.
	Curtains, embroidered muslins, not framed—					
	Weighing less than 10 kilograms to the 100 meters square.	....do	300.00	26 26	... do	Net.
	Weighing 10 kilograms or more, and curtains of embroidered muslin, framed, whatever be the weight to the 100 meters square, separate or in pieces.	....do	600.00	52 53	....do	Net.
	Curtains, tulle, applique, grenadine, and embroidered tulle.	....do	700.00	78 79	....do	Net.
	Muslin, figured or embroidered with crochet, for upholstering or for garments—					
	Unbleached.....	....do	300.00	31 52	... do	Net.
	Bleached.....	....do	414.00	36 24	....do	Net.
	Embroideries made by hand or machinery.	....do	800.00	70 04	....do	Net.
	Wicks, cotton	....do	74.00	6 48	....do	Net.
	Oil cloth—					
	For packing	....do	8.00	70	....do	Net.
	For upholstery, hangings, and other uses.	....do	30.00	2 63	....do	Net.
	Mole-skins, imitation of leather	....do	30.00	2 63	....do	Net.
	Heddles, twisted yarn, for weavers' looms.	....do	50.00	4 38	....do	Net.
	Cotton articles composed of cotton mixed with other materials, cotton predominating in weight—					
	Stuffs, cotton mixed with silk.....	....do	372.00	32 57	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
19	Cotton and manufactures of—Continued.					
	Cotton articles composed of cotton mixed with other materials, cotton predominating in weight—Continued.					
	Stuffs, cotton mixed with other materials.	100 kilos.	124.00	$10 86	100 lbs....	Net.
	Ribbons, cotton and wool	....do	150.00	13 13	....do	Net.
	Ribbons, cotton and silk	....do	370.00	32 57	....do	Net.
	Trimmings, cotton and silk	....do	370.00	32 57	....do	Net.
	Other (same as tissues of pure cotton).					
	Cotton yarn, single, unbleached, measuring to the ½ kilogram—					
	20,500 meters or less	....do	18.50	1 62	... do	Net.
	20,500 to 30,500 meters	....do	25 00	2 19	....do	Net.
	30,500 to 40,500 meters	....do	37.00	3 24	....do	Net.
	40,500 to 50,500 meters	....do	50.00	4 38	....do	Net.
	50,500 to 60,500 meters	....do	62.00	5 43	....do	Net.
	60,500 to 70,500 meters	....do	74.00	6 48	....do	Net.
	70,500 to 80,500 meters	....do	87.00	7 62	... do	Net.
	80,500 to 90,500 meters	....do	112.00	9 81	....do	Net.
	90,500 to 100,500 meters	....do	124.00	10 86	....do	Net.
	100,500 to 110,500 meters	....do	149.00	13 04	....do	Net.
	110,500 to 120,500 meters	....do	174.00	15 23	... do	Net.
	120,500 to 130,500 meters	....do	198.00	17 33	... do	Net.
	130,500 to 140,500 meters	....do	248.00	21 71	....do	Net.
	140,500 to 170,500 meters	....do	310.00	27 14	....do	Net.
	170,500 and over	....do	372.00	32 57	....do	Net.
	Cotton yarn, single bleached, measuring to the ½ kilogram—					
	20,500 meters or less	... do	21.27	1 86	....do	Net.
	20,500 to 30,500 meters	....do	28.75	2 52	....do	Net.
	30,500 to 40,500 meters	....do	42.55	3 73	....do	Net.
	40,500 to 50,500 meters	....do	57.50	5 03	....do	Net.
	50,500 to 60,500 meters	....do	71.30	6 24	....do	Net.
	60,500 to 70,500 meters	....do	85 10	7 45	... do	Net.
	70,500 to 80,500 meters	....do	100.05	8 76	... do	Net.
	80,500 to 90,500 meters	....do	128.30	11 27	....do	Net.
	90,500 to 100,500 meters	....do	142.60	12 48	....do	Net.
	100,500 to 110,500 meters	... do	171.35	15 00	... do	Net.
	110,500 to 120,500 meters	....do	200.10	17 52	....do	Net.
	120,500 to 130,500 meters	... do	227.70	19 93	....do	Net.
	130,500 to 140,500 meters	....do	235.20	24 97	....do	Net.
	140,500 to 170,500 meters	....do	356.50	31 21	....do	Net.
	170,500 meters and over	....do	427.30	37 45	....do	Net.
	Cotton yarn, single, dyed, or cleaned in ordinary dyes, measuring to the ½ kilogram—					
	20,500 meters or less	....do	48.50	4 25	... do	Net.
	20,500 to 30,500 meters	....do	55 00	4 81	....do	Net.
	30,500 to 40,500 meters	....do	67.00	5 86	....do	Net.
	40,500 to 50,500 meters	....do	80.00	7 00	....do	Net.
	50,500 to 60,500 meters	....do	92 00	8 05	....do	Net.
	60,500 to 70,500 meters	....do	134.17	9 11	....do	Net.
	70,500 to 80,500 meters	....do	117.00	10 24	....do	Net.
	80,500 to 90,500 meters	....do	142.00	12 43	....do	Net.
	90,500 to 100,500 meters	....do	154.00	13 48	....do	Net.
	100,500 to 110,500 meters	....do	179.00	15 67	....do	Net.
	110,500 to 120,500 meters	....do	204.00	17 86	.. do	Net.
	120,500 to 130,500 meters	....do	228.00	19 96	... do	Net.
	130,500 to 140,500 meters	....do	278.00	24 33	....do	Net.
	140,500 to 170,500 meters	....do	340.00	29 77	....do	Net.
	170,500 meters and over	....do	402.00	35 19	....do	Net.
	Cotton yarn, single, dyed or cleaned in Turkey red, measuring to the ½ kilogram—					
	20,500 meters or less	....do	78.50	6 87	....do	Net.
	20,500 to 30,500 meters	....do	85.00	7 44	....do	Net.
	30,500 to 40,500 meters	... do	97.00	8 49	....do	Net.
	40,500 to 50,500 meters	....do	110 00	9 63	....do	Net.
	50,500 to 60,500 meters	...do	122.00	10 68	....do	Net.
	60,500 to 70,500 meters	... do	134 00	11 73	....do	Net.
	70,500 to 80,500 meters	....do	147.00	12 87	....do	Net.
	80,500 to 90,500 meters	....do	172.00	15 06	....do	Net.
	90,500 to 100,500 meters	....do	184.00	16 11	....do	Net.
	100,500 to 110,500 meters	....do	209.00	18 30	....do	Net.
	110,500 to 120,500 meters	....do	234.00	20 49	....do	Net.
	120,500 to 130,500 meters	....do	258.00	22 59	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
19	Cotton and manufactures of—Continued.					
	Cotton yarn, single, dyed or cleaned in Turkey red, measuring to the ½ kilogram—Continued.		*Francs.*			
	130,500 to 140,500 meters	100 kilos	308.00	$26 96	100 lbs	Net.
	140,500 to 170,500 meters	do	370.00	32 39	do	Net.
	170,500 meters and over	do	432.00	37 82	do	Net.
	Cotton yarn, unbleached, twisted, of 2 or 3 threads, in small, ordinary skeins, measuring to the ½ kilogram—					
	20,500 meters or less	do	24.05	2 10	do	Net.
	20,500 to 30,500 meters	do	32.50	2 84	do	Net.
	30,500 to 40,500 meters	do	48.10	4 21	do	Net.
	40,500 to 50,500 meters	do	65.00	5 69	do	Net.
	50,500 to 60,500 meters	do	80.60	7 06	do	Net.
	60,500 to 70,500 meters	do	96.20	8 42	do	Net.
	70,500 to 80,500 meters	do	113.10	9 90	do	Net.
	80,500 to 90,500 meters	do	145.60	12 75	do	Net.
	90,500 to 100,500 meters	do	161.20	14 11	do	Net.
	100,500 to 110,500 meters	do	193 70	16 96	do	Net.
	110,500 to 120,500 meters	do	226.20	19 80	do	Net.
	120,500 to 130,500 meters	do	257 40	22 53	do	Net.
	130,500 to 140,500 meters	do	322.40	28 22	do	Net.
	140,500 to 170,500 meters	do	403.00	35 28	do	Net.
	170,500 meters and over	do	483.60	42 34	do	Net.
	Cotton yarn, bleached, twisted in 2 or 3 threads, in small ordinary skeins, measuring, to the ½ kilogram—					
	20,500 meters or less	do	27.65	2 42	do	Net.
	20,500 to 30,500 meters	do	37.38	3 27	do	Net.
	30,500 to 40,500 meters	do	55.32	4 84	do	Net.
	40,500 to 50,500 meters	do	74.75	6 54	do	Net.
	50,500 to 60,500 meters	do	92.69	8 11	do	Net.
	60,500 to 70,500 meters	do	110.63	9 68	do	Net.
	70,500 to 80,500 meters	do	130.06	11 39	do	Net.
	80,500 to 90,500 meters	do	167.44	14 68	do	Net.
	90,500 to 100,500 meters	do	185.38	16 23	do	Net.
	100,500 to 110,500 meters	do	222.75	19 50	do	Net.
	110,500 to 120,500 meters	do	260.13	22 77	do	Net.
	120,500 to 130,500 meters	do	296.01	25 94	do	Net.
	130,500 to 140,500 meters	do	370.76	32 46	do	Net.
	140,500 to 170,500 meters	do	463.45	40 57	do	Net.
	170,500 meters and over	do	556.14	48 69	do	Net.
	Cotton yarn, twisted in 2 or 3 threads, dyed or clouded, in ordinary colors, measuring, by ½ kilogram—					
	20,500 meters or less	do	54.05	4 73	do	Net.
	20,500 to 30,500 meters	do	68.50	5 47	do	Net.
	30,500 to 40,500 meters	do	78.10	6 84	do	Net.
	40,500 to 50,500 meters	do	95.00	8 32	do	Net.
	50,500 to 60,500 meters	do	110.60	9 68	do	Net.
	60,500 to 70,500 meters	do	126.20	11 05	do	Net.
	70,500 to 80,500 meters	do	143.10	12 53	do	Net.
	80,500 to 90,500 meters	do	175 60	15 37	do	Net.
	90,500 to 100,500 meters	do	191.20	16 74	do	Net.
	100,500 to 110,500 meters	do	223.70	19 58	do	Net.
	110,500 to 120,500 meters	do	256.20	22 43	do	Net.
	120,500 to 130,500 meters	do	287.40	25 16	do	Net.
	130,500 to 140,500 meters	do	352.40	30 85	do	Net.
	140,500 to 170,500 meters	do	433.00	37 91	do	Net.
	170,500 meters and over	do	513.60	44 96	do	Net.
	Cotton yarn, twisted in 2 or 3 threads, dyed in Turkey red, measuring, by ½ kilogram—					
	20,500 meters or less	do	84.05	7 36	do	Net.
	20,500 to 30,500 meters	do	92.50	8 10	do	Net.
	30,500 to 40,500 meters	do	108.10	9 47	do	Net.
	40,500 to 50,500 meters	do	125.00	10 94	do	Net.
	50,500 to 60,500 meters	do	140 60	12 31	do	Net.
	60,500 to 70,500 meters	do	156.20	13 67	do	Net.
	70,500 to 80,500 meters	do	173.10	15 15	do	Net.
	80,500 to 90,500 meters	do	205.60	18 00	do	Net.
	90,500 to 100,500 meters	do	221.20	19 37	do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
19	Cotton and manufactures of—Continued.					
	Cotton yarn, twisted in 2 or 3 threads, dyed in Turkey red, measuring, by ½ kilogram—					
	100,500 to 110,500 meters	100 kilos	253.70	$22 21	100 lbs	Net.
	110,500 to 120,500 meters	do	286.20	25 05	do	Net.
	120,500 to 130,500 meters	do	317.40	27 79	do	Net.
	130,500 to 140,500 meters	do	382 40	33 48	do	Net.
	140,500 to 170,500 meters	do	463.00	40 53	do	Net.
	170,500 meters and over	do	543.60	47 59	do	Net.
	Cotton yarn:					
	Twisted, in 4 or more threads, in small, ordinary skeins, unbleached, bleached, or dyed—					
	Single twisted	1,000 meters of single thread.	0.015	0.003	1,000 meters of single thread.	
	Double twisted and cable	do	0.020	0.004	do	
	Cotton yarn, twisted, made up in balls, spools, small skeins, cards, or other forms, regardless of the number of strand, unbleached, bleached, or dyed—					
	Single twisted	do	0.020	0.004	do	
	Double twisted and cable	do	0.025	0.005	do	
	Cotton warps:					
	Unbleached (duty on the component yarn augmented by 30 per cent.).	100 kilos			100 lbs	
	Bleached (same duty as unbleached cotton warp, augmented by 15 per cent.).	do			do	
	Dyed in ordinary dyes (30 francs per 100 kilos—$2.63 per 100 pounds—over and above the duty on cotton warp, unbleached).	do			do	
	Dyed in Turkey red (60 francs per 100 kilos—$5.25 per 100 pounds—over and above the duty on cotton warp, unbleached).	do			do	
	Cotton yarn, mixed, the cotton predominating in weight (same duty as that of pure cotton yarn).	do			do	
20	Earthen, stone, and china ware:					
	Earthenware, potteries of common clay, gas retorts, crucibles of all sorts, including those in graphite or plumbago, drain pipes, clay pipes, &c., glazed or not.		Free			
	Other, glazed, with decorations of sculpture or paintings.	100 kilos	5.00	44	100 lbs	Gross.
	Utensils used in the manufacture of chemical products.		Free			
	Stoneware:					
	Common	100 kilos	4 00	35	100 lbs	Gross.
	Fine	do	8.00	70	do	Gross.
	Tiles:					
	Ceramics, of different colors	do	3.00	26	do	Gross.
	Ceramics, of one color	do	1.00	09	do	Gross.
	Faience:					
	Stanniferous, of colored paste, covered white, or colored, with ornaments in relief, flutings, or indentations, monochrome, molded, not finished by hand.		Free			
	Parti-colored glaze, stamped or hand-painted, or molded and hand-finished.	100 kilos	15.00	1 31	100 lbs	Net.
	Fine (fine white paste baked and cleansed), white or covered with uniform colored glaze.	do	10.00	88	do	Net.
	Fine, decorated	do	15.00	1 31	do	Net.
	Porcelain:					
	White, china	do	13.50	1 09	do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
20	Earthen, stone, and china ware—Continued.					
	Porcelain—Continued.		*Francs.*			
	Decorated china, parian, and bisque ware.	100 kilos..	25.00	$2 19	100 lbs....	Net.
21	Fertilizers, guano and other	.....	Free....	.....	.....	
22	Fish:					
	Fresh	100 kilos..	5.00	44	100 lbs....	Gross.
	Codfish (including stockfish and klipfish), dried, salted, or smoked.	....do.....	48.00	4 20	....do.....	Net.
	Other, dried, salted, or smoked	....do.....	10.00	88	....do.....	Gross.
	Preserved in oil, pickled, or otherwise prepared.	....do.....	10.00	88	....do.....	Gross.
	Oysters—					
	Fresh, young, for propagation	.....	Free....	.....	.....	
	Fresh, other	1,000.....	1 50	29	1,000.....	Gross.
	Pickled	100 kilos..	10.00	88	100 lbs....	Gross.
	Lobsters—					
	Fresh	....do.....	5.00	44	....do.....	Gross.
	Preserved or prepared	....do.....	10.00	88	....do.....	Gross.
	Shell-fish	.....	Free....	.....	.....	
	Parings, cod, and mackerel	100 kilos..	60	05	100 lbs....	Gross.
	Fish bladders, raw or singly dried	.....	Free....	.....	.....	
	Fish oil	100 kilos..	6.00	53	100 lbs....	Gross.
	Whale oil and spermaceti:					
	Crude	....do.....	5.00	44	....do.....	Gross.
	Pressed	....do.....	10.00	88	....do.....	Gross.
	Refined	....do.....	15.00	1 31	....do.....	Net.
	Seal-skins, raw	.....	Free....	.....	.....	
	Whalebone, uncut	.....	Free....	.....	.....	
	Coral, rough, uncut	.....	Free....	.....	.....	
	Sponges:					
	Raw	100 kilos..	35.00	3 06	100 lbs....	Net.
	Prepared, fine	....do.....	65.00	5 69	....do.....	Net.
23	Flax, hemp, and jute, manufactures of:					
	Fabrics of pure flax or hemp, plain or worked, showing in warp and woof, in a space of 5 square millimeters, after divisions of the whole by 2—					
	Unbleached—					
	6 threads or less	....do.....	28.00	2 45	....do.....	Net.
	7 to 8 threads, inclusive	....do.....	42.00	3 68	....do.....	Net.
	9 to 10 threads, inclusive	....do.....	68.00	5 95	....do.....	Net.
	11 to 12 threads, inclusive	....do.....	81.00	7 09	....do.....	Net.
	13 to 14 threads, inclusive	....do.....	112.00	9 80	....do.....	Net.
	15, 16, and 17 threads	....do.....	143.00	12 52	....do.....	Net.
	18, 19, and 20 threads	....do.....	230.00	20 14	....do.....	Net.
	21, 22, and 23 threads	....do.....	344.00	30 12	....do.....	Net.
	Over 23 threads	....do.....	460.00	40 27	....do.....	Net.
	When bleached, dyed, or printed—					
	6 threads or less	....do.....	36.40	3 19	....do.....	Net.
	7 to 8 threads, inclusive	....do.....	54.60	4 78	....do.....	Net.
	9 to 10 threads, inclusive	....do.....	88.40	7 74	....do.....	Net.
	11 to 12 threads, inclusive	....do.....	105.30	9 31	....do.....	Net.
	13 to 14 threads, inclusive	....do.....	145.60	12 75	....do.....	Net.
	15, 16, and 17 threads	....do.....	185.90	16 27	....do.....	Net.
	18, 19, and 20 threads	....do.....	299.00	26 18	....do.....	Net.
	21, 22, and 23 threads	....do.....	447.20	39 15	....do.....	Net.
	Over 23 threads	....do.....	598.00	52 35	....do.....	Net.
	(In counting the threads, both of the warp and woof, fractions of thread are not counted; the sum of the two numbers is divided by 2, and if the quotient be fractional, the fraction shall be counted as an entire thread.)					
	Canvas, floor cloth, oil-cloth foundations, linoleum, and other similar fabrics.	....do.....	30.00	2 63	....do.....	Net.
	Linen damask, for bedding and upholstery—					
	Unbleached	....do.....	112.00	9 81	....do.....	Net.
	Cream-colored, bleached, or mixed with white and colored threads.	....do.....	145.60	12 75	....do.....	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
23	Flax, hemp, and jute, manufactures of—Continued.					
	Table linen, damasked, unbleached, having warp, in a space of 5 square millimeters—					
	12 threads or less	100 kilos	93.00	$8 14	100 lbs	Net.
	13 and 14 threads	do	129.00	11 29	do	Net.
	15, 16, and 17 threads	do	165.00	14 45	do	Net.
	18, 19, and 20 threads	do	265.00	23 20	do	Net.
	21, 22, and 23 threads	do	395.00	34 58	do	Net.
	Over 23 threads	do	530.00	46 40	do	Net.
	The same, bleached, clouded, or mixed with unbleached threads, and bleached or colored threads, same duty as on unbleached table linens, augmented 30 per cent.					
	Twills—					
	Unbleached	do	120.00	10 51	do	Net.
	Cream-colored, white, or mixed with unbleached threads, and bleached or colored threads.	do	156.00	13 66	do	Net.
	Trimmings and ribbons, unbleached, brown, or gloss bleached.	do	149.00	13 04	do	Net.
	The same, cream-colored, bleached or dyed.	do	174.00	15 23	do	Net.
	Hosiery, flax or hemp	do	124.00	10 86	do	Net.
	Laces and linen gimps	do	495 00	43 33	do	Net.
	Embroidered handkerchiefs and other embroideries on linen.	do	496.00	43 42	do	Net.
	Mixed fabrics, flax and hemp predominating in weight, same duty as on linen or hemp fabrics, according to kind.					
	Flax or hemp yarns and threads—					
	Single, unbleached, measuring to the kilogram—					
	2,000 meters or less	do	16.00	1 40	do	Net.
	2,000 to 5,000 meters	do	18.00	1 57	do	Net.
	5,000 to 10,000 meters	do	23.00	2 01	do	Net.
	10,000 to 20,000 meters	do	33.00	2 89	do	Net.
	20,000 to 30,000 meters	do	40.00	3 50	do	Net.
	30,000 to 40,000 meters	do	50.00	4 38	do	Net.
	40,000 to 60,000 meters	do	70.00	6 13	do	Net.
	60,000 to 80,000 meters	do	99.00	8 67	do	Net.
	80,000 to 100,000 meters	do	149.00	13 04	do	Net.
	More than 100,000 meters	do	250.00	17 51	do	Net.
	Single, bleached or colored, or twisted, but unbleached, measuring by the kilogram—					
	2,000 meters or less	do	20.80	1 82	do	Net.
	2,000 to 5,000 meters	do	23.40	2 02	do	Net.
	5,000 to 10,000 meters	do	29.90	2 64	do	Net.
	10,000 to 20,000 meters	do	42.90	3 76	do	Net.
	20,000 to 30,000 meters	do	52.00	4 55	do	Net.
	30,000 to 40,000 meters	do	65.00	5 69	do	Net.
	40,000 to 60,000 meters	do	91.00	7 97	do	Net.
	60,000 to 80 000 meters	do	128.70	11 27	do	Net.
	80,000 to 100,000 meters	do	193.70	16 96	do	Net.
	More than 100,000 meters	do	260.00	22 76	do	Net.
	Yarn, twisted, bleached or dyed, measuring by the kilogram—					
	2,000 meters or less	do	27.04	2 37	do	Net.
	2,000 to 5,000 meters	do	30.42	2 66	do	Net.
	5,000 to 10,000 meters	do	38.87	3 40	do	Net.
	10,000 to 20,000 meters	do	55.77	4 88	do	Net.
	20,000 to 30,000 meters	do	67.60	5 91	do	Net.
	30,000 to 40,000 meters	do	84.50	7 40	do	Net.
	40,000 to 60,000 meters	do	118.50	10 36	do	Net.
	60,000 to 80,000 meters	do	168.31	14 65	do	Net.
	80,000 to 100,000 meters	do	251.81	22 05	do	Net.
	More than 100,000 meters	do	338.00	29 60	do	Net.
	Thread, polished, twine and strings, measuring per kilogram of single thread—					
	500 meters or less	do	18.50	1 59	do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tarifi rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
23	Flax, hemp, and jute, manufactures of—Continued.					
	Flax or hemp yarns and threads—Cont'd.					
	Thread, polished, twine and strings, measuring per kilogram of single thread—Continued.		*Francs.*			
	500 to 2,000 meters, inclusive	100 kilos	22.50	$1 97	100 lbs	Net.
	More than 2,000 meters, same duty as flax or hemp yarns, twisted, according to kind.					
	Fishing nets	do	20.00	1 75	do	Net.
	Pure jute fabrics—					
	Pure jute fabrics showing in warp and woof, in a space of 5 square millimeters after division of the total by 2—					
	Unbleached—					
	3 threads or less	do	16.00	1 40	do	Net.
	4 and 5 threads	do	28.00	2 45	do	Net.
	6, 7, and 8 threads	do	30.00	2 63	do	Net.
	More than 8 threads, same duties as linen fabrics.					
	Bleached or dyed—					
	3 threads or less	do	18.50	1 59	do	Net.
	4 and 5 threads	do	38.00	3 33	do	Net.
	6, 7, and 8 threads	do	43.00	3 76	do	Net.
	More than 8 threads, same duties as linen fabrics.					
	Carpets	do	25.00	2 19	do	Net.
	Mixed fabrics, principally jute, same duties as pure jute fabrics.					
	Yarns of pure jute, unbleached, measuring by the kilogram—					
	Less than 1,400 meters	do	6.25	55	do	Net.
	From 1,400 to 3,700 meters	do	7.50	66	do	Net.
	From 3,700 to 4,200 meters	do	8.75	77	do	Net.
	From 4,200 to 6,000 meters	do	12.50	1 09	do	Net.
	More than 6,000 meters, same duty as flax or hemp yarn, unbleached.					
	Yarn of pure jute, bleached or dyed, measuring by kilogram—					
	Less than 1,400 meters	do	8.75	77	do	Net.
	From 1,400 to 3,700 meters	do	11.00	98	do	Net.
	From 3,700 to 4,200 meters	do	12.50	1 07	do	Net.
	From 4,200 to 6,000 meters	do	17.50	1 53	do	Net.
	More than 6,000 meters, same duty as flax or hemp yarn, bleached or dyed.					
	Yarn of mixed jute, the jute predominating in weight, same duty as yarns of jute.					
	Yarn of phormium tenax, abaca, and other fibrous vegetables not mentioned, either pure or mixed, the phormium or abaca, &c., predominating in weight, same duty as yarn of jute.					
24	Fruits—					
	Fresh fruits—					
	Lemons, oranges, and their varieties	do	4.50	37	do	Gross.
	Carob beans	do	.30	03	do	Gross.
	Others		Free			
	Dried fruits—					
	Figs, raisins, apples, and pears, almonds, and nuts.	100 kilos	6.00	53	100 lbs	Gross.
	Others	do	8.00	70	do	Gross.
	Fruits—					
	Preserved in brandy	do	*40.00	3 50	do	Net.
	Preserved in honey or sugar	do	62.50	5 47	do	Net.
	Preserved or pickled, not otherwise specified.	do	8.00	70	do	Gross.
	Distillers' fruit, anis green		Free			
	Oleaginous fruits and seeds		Free			

*Not including internal taxes.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
25	Furs and fur skins:					
	Undressed	.....	Free	.....	.....	
	Dressed whole, or in strips sewn together—					
	Astrakans	.....	Free	.....	.....	
	Goat-skins	.....	Free	.....	.....	
	Hamster and white rabbit skins, not dyed.	.....	Free	.....	.....	
	Hares, white, and bags of the same	.....	Free	.....	.....	
	Seals and bluebacks, including dyed skins.	.....	Free	.....	.....	
	Sea-wolf and otter skins	.....	Free	.....	.....	
	Squirrels, and bags of the same	.....	Free	.....	.....	
	Other, not above denominated	100 kilos..	100.00	8 75	100 lbs....	Net.
	Made up and worked	....do	500.00	43 77	....do	Net.
26	Glass and glassware:					
	Glass plates and mirrors—					
	Less than half a square meter in surface	100 kilos..	25.00	2 19	100 lbs....	Net.
	From half a square meter to a square meter, exclusive, rough, unpolished.	Sq. meter..	1.20	23	Sq. meter..	Net.
	From half a square meter to a square meter, exclusive, polished or silvered.	....do	3.75	72	....do	Net.
	A meter, square or more, unpolished	....do	1.90	37	....do	Net.
	A meter square or more, polished or silvered.	....do	5.00	96	....do	Net.
	Goblets of glass or crystal—					
	Plain, molded, and pressed, white or tinted, throughout one color.	100 kilos..	4.25	37	100 lbs....	Gross.
	Cut, or engraved, in any other manner than is necessary for effacing the mark of the portée.	....do	12.50	1 09	....do	Net.
	Decorated in gold or colors	....do	31.00	2 71	....do	Net.
	Window-glass—					
	Common	....do	4.25	37	....do	Gross.
	Stained, engraved, or polished	....do	18.50	1 62	....do	Net.
	Watch crystals, spectacle and optic, including glasses for toy watches, unpolished.	....do	15.00	1 31	....do	Net.
	Same, cut and polished	....do	149.00	13 04	....do	Net.
	Vitrifactions and enamel in lumps or tubs.	....do	4.75	42	....do	Gross.
	Vitrifactions in beads, pierced and cut, or in crystals, for jewelry, trinkets, colored or not, spun glass, balls, and coral imitations.	....do	25.00	2 19	....do	Net.
	Bottles	....do	3.00	26	....do	Net.
	Broken glass	.....	Free	.....	.....	
	Other glass manufactures not denominated.	100 kilos..	18.50	1 62	100 lbs....	Gross.
27	Glucose, or grape-sugar	....do	62.50	5 47	....do	Net.
28	Glue:					
	Gelatine	.....	Free	.....	.....	
	Fish or isinglass	100 kilos..	40.00	3 50	100 lbs....	Net.
	Bird lime	.....	Free	.....	.....	
29	Gunpowder and other explosives:					
	Gunpowder (prohibited).					
	Dynamite, imported under special authorization of the French Government.	100 kilos..	250.00	21 89	100 lbs....	
	Percussion caps—					
	For military uses (prohibited).					
	For sporting uses	....do	60.00	5 25	....do	Net.
	Cartridges—					
	For military uses (prohibited).					
	For shooting societies	....do	25.00	2 19	....do	Net.
	For sporting uses, filled (prohibited)					
	For sporting uses, empty (cases for cartridges, primed or not primed).	....do	60.00	5 25	....do	Net.
	Projectiles (prohibited).					
	Slow-matches for mines—					
	Ordinary	....do	35.00	3 06	....do	Net.
	Covered with linen ribbon	....do	50.00	4 38	....do	Net.
	Covered with gutta-percha	....do	80.00	7 00	....do	Net.
	Fireworks	....do	100.00	8 75	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
30	Hair:					
	Hair of animals, bristles, &c., raw or simply prepared.	.....	Free	.....	.....	
	Hair of animals, combed	100 kilos..	10.00	$0 88	100 lbs....	Gross.
	Feathers—					
	Ornamental, dressed or undressed, quills, prepared or not.	.....	Free	.....	.....	
	Bed, all kinds, including down	100 kilos..	20.00	1 75	100 lbs....	Net.
	Hair, human, and manufactures of	.....	Free	.....	.....	
31	Hay	.....	Free	.....	.....	
32	Hides and skins, raw, green, or dried	.....	Free	.....	.....	
33	Honey	100 kilos..	10.00	88	100 lbs....	Gross.
34	Hops	...do	15.00	1 31	....do	Net.
35	Ice	.....	Free	.....	.....	
36	India-rubber, and gutta-percha, and manufactures of:					
	India-rubber and gutta-percha, crude	.....	Free	.....	.....	
	Manufactures of india-rubber and gutta-percha—					
	Pure or mixed with other substances	100 kilos..	20.00	1 75	100 lbs....	Net.
	Applied upon textile fabrics or upon any other materials.	....do	100.00	8 75	....do	Net.
	Webbings	....do	200.00	17 51	....do	Net.
	Boots and shoes	....do	60.00	5 25	....do	Net.
	Made up garments	....do	120.00	10 51	....do	Net.
36½	Instruments and apparatus for scientific purposes.	.....	Free	.....	.....	
37	Iron and steel, and manufactures of:					
	Iron ore	.....	Free	.....	.....	
	Cast iron, pig-iron, and fragments (for ballast, purified iron called "mazee").	100 kilos..	2.00	18	100 lbs	Gross.
	Iron—					
	In lumps, not freed from dross (only the lumps of iron containing at least 6 per cent. of dross will be considered under this classification).	....do	4.50	39	....do	Gross.
	Rolled, bars, angles, and rails of all sorts, and T-iron (pig-iron containing 6 per cent. or more of dross will be classed as iron, not freed from dross).	....do	6.00	53	....do	Gross.
	Plate or hoop, more than a millimeter thick.	....do	6.00	53	....do	Gross.
	Sheets and plates, millimeter thick and less.	....do	7.50	66	....do	Gross.
	For wire manufacture (machine iron).	....do	6.00	53	....do	Gross.
	Sheet, smooth or hammered, more than a millimeter thick, not cut	....do	7.50	66	....do	Gross.
	Sheet, smooth or hammered, more than a millimeter thick and cut.	....do	8 00	70	....do	Gross.
	Sheet, thin and black rolled iron-plate, 1 millimeter thick or less, not cut to any shape.	....do	10.00	88	....do	Gross.
	Sheet, thin and black rolled iron-plate, 1 millimeter thick or less, cut to any shape.	....do	11.00	96	....do	Net.
	Tinned, coppered, covered with zinc or lead.	....do	13.00	1 14	....do	Net.
	Wire, whether tinned, coppered, covered with zinc or lead, or not so tinned, &c., $\frac{1}{10}$ of a millimeter thick or less.	....do	10.00	88	....do	Gross.
	Wire, other	....do	6.00	53	....do	Gross.
	Manufactures of cast-iron and iron combined—					
	Not polished, the weight of the iron being less than half of the whole.	... do	5.00	44	....do	Gross.
	Not polished, the weight of the iron not being less than half of the whole.	...do	8.00	70	....do	Gross.
	Polished, enameled, or varnished, with ornaments in iron, copper, brass, or steel.	....do	12.00	1 05	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
37	Iron and steel, and manufactures of—Cont'd.		*Francs.*			
	Cast-iron work, not tinned or polished, seats for railway plates and other castings from the open mold.	100 kilos ..	3.00	$0 25	100 lbs	Gross.
	Cast-iron columns, solid or hollow, straight cylindrical pipes, rafters, gas retorts, solid bars, and sets thereof, grates and chimney-backs, shafts of machinery, frames of machines, and other objects without ornaments or fittings.	....do	3.75	33	....do	Gross.
	Cast-iron work, other, not turned or polished, cast-iron pots, and all other like manufactures not included in the two preceding classes.	....do	4.50	39	....do	Gross.
	Cast iron, turned or polished	....do	6.00	53	....do	Gross.
	Cast iron, tinned, enameled, or varnished	....do	10.00	88	....do	Gross.
	Anchors, chains, and chain-cables, and drags in the French ports and roadsteads, under the rulings provided in the law of July 2, 1836.	....do	1.25	11	....do	Gross.
	Anchors, chains, and cables, others	....do	8.00	70	....do	Gross.
	Arms of war (prohibited).					
	Arms of commerce:					
	Side-arms	....do	40.00	3 50	....do	Net.
	Fire-arms, loading at the mouth	....do	240.00	21 01	....do	Net.
	Fire-arms, breech-loading	....do	360.00	31 52	....do	Net.
	Gun-barrels, crude	....do	60.00	5 25	....do	Net.
	Car-wheels, iron bolts and nuts	....do	8.00	70	....do	Gross.
	Cutlery:					
	Common cutlery, kitchen and butcher knives, and common tailors' scissors.	....do	125.00	10 94	....do	Net.
	Common razors	....do	250.00	21 89	....do	Net.
	Others	....do	375.00	32 83	....do	Net.
	Fine cutlery	....do	600.00	52 53	....do	Net.
	Fish-hooks	....do	50.00	4 38	....do	Net.
	Gasometers, open boilers, furnaces, and stoves, iron, or cast and sheet-iron.	....do	8.00	70	....do	Net.
	Household ware, and other articles not mentioned, in iron—					
	Polished or painted	....do	14.00	1 22	....do	Net.
	The same tinned, enameled, or varnished.	....do	16.00	1 40	....do	Net.
	Household wares in steel, and other steel goods not mentioned.	....do	20.00	1 75	....do	Net.
	Locks and padlocks of all sorts, pins, small hinges in sheet iron, latches, flat bolts and other like articles in wrought or cast-iron, turned, polished, or filed, for furniture irons or for doors and windows.	....do	12.00	1 05	....do	Net.
	Machinery and mechanical apparatus—					
	Steam, fixed, with or without boilers or fly-wheels.	....do	6.00	53	....do	Net.
	Marine engines, with or without boilers.	....do	12.00	1 05	....do	Net.
	Locomotive and portable engines	....do	10.00	88	....do	Net.
	Others, not steam-engines; tenders for locomotives.	....do	8.00	70	....do	Net.
	Machinery for setting sheets and fillet cards.	....do	6.00	53	....do	Net.
	Carding-machines, not furnished	....do	10.00	88	....do	Net.
	Machines for cleaning and opening flax, wool, cotton, and other textile materials.	....do	6.00	53	....do	Net.
	Spinning-machines	....do	10.00	88	....do	Net.
	Weaving-machines	....do	6.00	53	....do	Net.
	Bobbinet-machines	....do	10.00	88	....do	Net.
	Paper-making machines	....do	6.00	53	....do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
87	Iron and steel, and manufactures of—Cont'd.					
	Machinery and mechanical apparatus—Continued.		*Francs.*			
	Printing-machines	100 kilos	6.00	$0 53	100 lbs	Net.
	Agricultural machines, not including motors, steam-boilers, of iron plate, cylindrical, or spherical, with or without heating tubes.	do	8.00	70	do	Net.
	Steam-boilers, tubular, sheet-iron, with tubes of iron, copper, or brass, with internal furnaces, and all other boilers, not cylindrical or simply spherical.	do	12.00	1 05	do	Net.
	Steam-boilers of steel sheet, all shapes	do	25.00	2 19	do	Net.
	Sewing-machines	do	6.00	53	do	Net.
	Machine parts and detached pieces—					
	In cast-iron, filed and fitted	do	6.00	53	do	Net.
	Others, in wrought-iron polished, filed, and adjusted, or not, without distinction of weight, and including axles, springs, and wheel-bandages.	do	10.00	88	do	Net.
	Other pieces, in wrought steel, springs for carriages, wagons, and locomotives.	do	10.00	88	do	Net.
	Other pieces, in wrought steel, and other pieces polished, filed, adjusted, or not, weighing more than 1 kilogram (including axles and wheel bandages for wagons and locomotives).	do	10.00	88	do	Net.
	Other pieces, in wrought steel, polished, filed, adjusted, or not, weighing 1 kilogram, or less.	do	20.00	1 75	do	Net.
	Dents of reeds in iron or copper; reeds, irons, and weaving-combs in iron or copper.	do	30.00	2 63	do	Net.
	Sheets and fillets of cards, on leather, india-rubber, and woven fabrics, pure or mixed.	do	50.00	4 38	do	Net.
	Sheets and fillets prepared for cards, of leather, india-rubber, and specially woven fabrics.	do	20.00	1 75	do	Net.
	Machine tools, and machines not mentioned, containing—					
	75 per cent. of cast-iron, or more	do	6.00	53	do	Net.
	50 to 75 per cent. cast-iron	do	10.00	88	do	Net.
	Less than 50 per cent. cast-iron	do	15.00	1 31	do	Net.
	Nails—					
	Forged by machinery	do	8.00	70	do	Net.
	Forged by hand	do	12.00	1 05	do	Net.
	Needles—					
	Knitting, and other like articles in steel, iron, or copper.	do	25.00	2 19	do	Net.
	Sewing, under 5 centimeters long	do	248.00	21 71	do	Net.
	Sewing, over 5 centimeters long	do	124.00	10 86	do	Net.
	Pins	do	50.00	4 38	do	Net.
	Pens, metallic, not gold or silver	do	100.00	8 75	do	Net.
	Plates or stamps engraved for impressions on paper.		Free			
	Plates of steel or iron	100 kilos	10.00	88	100 lbs	Gross.
	Steel—					
	In bars, rails, axles, and bands of wheels, forge steel.	do	6.00	53	do	Gross.
	In bars, other of all kinds	do	9.00	79	do	Gross.
	In sheets or coils, brown, rolled hot, more than a millimeter thick, not cut.	do	9.00	79	do	Net.
	In sheets, as above, cut to any shape.	do	9.90	87	do	Net.
	In sheets, as above, demi-millimeter thick, or less, not cut.	do	15.00	1 31	do	Net.
	Ins heets as above, demi-millimeter thick, or less, cut to any shape.	do	16.50	1 44	do	Net.
	In sheets or coils, white, rolled cold, of any thickness, not cut.	do	15.00	1 31	do	Net.
	In sheets, &c., as above, cut to any shape.	do	16.50	1 44	do	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
37	Iron and steel, and manufactures of—Cont'd.		*Francs.*			
	Steel wire, white, for strings of instruments.	100 kilos ..	20.00	$1 75	100 lbs	Net.
	Iron filings and scales	.....	Free....	2 19	.....	
	Steel cables	100 kilos ..	25.00	1 75	100 lbs	Net.
	Steel beads, buckles, brooches, thimbles, and like small wares.	....do	20.00	2 19	....do	Gross.
	Tools—					
	With or without handles, made wholly of iron.	....do	10.00	88	....do	Net.
	Of steeled iron	....do	15.00	1 31	....do	Net.
	Of steel	....do	20.00	75	....do	Net.
	Tubes and fittings, iron—					
	Butt welded, 9 millimeters or more inside diameter.	....do	11.00	96	....do	Net.
	The same, of less than 9 millimeters inside diameter.	....do	20.00	1 75	....do	Net.
	Iron, lap-welded	....do	20.00	1 75	....do	Net.
	Joinings, of all sorts	....do	20.00	1 75	....do	Net.
	Iron or steel work—					
	In meshes of under 2 centimeters wide	....do	10.00	88	....do	Gross.
	Other	....do	8.00	70	....do	Gross.
	Wrought iron—					
	Heavy iron wares	....do	8.00	70	....do	Gross.
	Bent frames, ship's joists, irons for carts or wagons, hinges, handles, large bolts, square knees, and other irons for doors and windows, not polished nor turned, wire-work couches, seats, and garden or other furniture, with or without accessory ornaments in cast-iron, copper, or steel.	....do	8.00	70	....do	Gross.
38	Jewelry, manufactures of gold and silver and other precious metals:					
	Articles, manufactures or ware sof gold, silver, aluminium, platinum, and other precious metals.	....do	500.00	43 77	....do	Net.
	Articles gilded or silvered by plating, mercury or electro-chemical processes—					
	False jewelry	....do	500.00	43 77	....do	Net.
	Other articles	....do	100.00	8 75	....do	Net.
39	Lamps, chandeliers, and all devices and appliances for illuminating purposes (not specially classified, pay the duty imposed on the material or component part paying the highest rate except when such component part can be easily separated from or merely constitutes an accessory to the whole).					
40	Lead and manufactures of—					
	Ore and slag of all kinds in crude lumps, pigs, bars, or sheets.	.....	Free....	.....	.....	
	Alloyed with antimony, in lumps	100 kilos ..	3.00	26	100 lbs	Gross.
	Hammered or rolled	....do	3.00	26	....do	Gross.
	Filings and fragments of old manufactures.	....do	Free	.....	....do	
	Pipe, and other manufactures of lead	....do	3 00	26	....do	Gross.
41	Leather and manufactures of:					
	Skins—					
	Prepared, varnished, or morocco	....do	74.00	6 48	....do	Net.
	Sheep, dyed	....do	56.00	4 90	....do	Net.
	Others, dyed	....do	74.00	6 48	....do	Net.
	Others, goat, sheep, or lamb	....do	10.00	88	....do	Gross.
	Others not mentioned	....do	50.00	4 38	....do	Net.
	Morocco leather—					
	Soft	....do	200.00	17 51	....do	Net.
	Hard	....do	150.00	13 13	....do	Net.
	Other	....do	100.00	8 75	....do	Net.
	Boots	Pair	2.00	39	Pair	
	Gaiters for men or women	....do	1.25	24	....do	
	Shoes	....do	.75	14	....do	
	Thongs for sabots	100 kilos..	62.00	5 43	100 lbs....	Net.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United states money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
41	Leather and manufactures of—Continued.					
	Gloves—		*Francs.*			
	Lamb or calf, merely sewed	Dozen	1.00	$0 19	Dozen	
	Lamb or calf, piqués	do	1.50	29	do	
	Kid, merely sewed	do	2.00	39	do	
	Kid, piqués	do	2.50	48	do	
	Saddles—					
	For men	Each	10.00	1 93	Each	
	For women	do	12.00	2 32	do	
	Fine saddlery articles (not saddles)	100 kilos	200.00	17 51	100 kilos	Net.
	Harness goods	do	50.00	4 38	do	Net.
	Leather straps	do	62.00	5 43	100 lbs	Net.
	Leather pipes or cylinders	do	62.00	5 43	do	Net.
	Leather trunks, wood or card-board covered with leather.	do	74.00	6 48	do	Net.
42	Lime, cement, and plaster		Free			
43	Malt liquors, beer	Hectoliter	7.75	06	Gallon	
44	Musical instruments:					
	Upright pianos	Piece	50.00	9 65	Piece	
	Grand pianos	do	75.00	14 48	do	
	Harmoniums, with or without pedals, weighing—					
	Less than 60 kilograms	do	10.00	1 93	do	
	From 60 to 120 kilograms	do	20.00	3 86	do	
	From 120 kilograms upward	do	30.00	5 79	do	
	Church organs, weighing—					
	Less than 4,000 kilograms (packing included).	do	100.00	19 30	do	
	4,000 to 10,000 kilograms	do	200.00	38 60	do	
	10,001 to 20,000 kilograms	do	400.00	77 20	do	
	20,001 kilograms upwards	do	500.00	96 50	do	
	Hand-organs, with or without figures, playing several airs.	do	15.00	2 90	do	
	Small hand-organs	do	2.00	39	do	
	Vielles	do	3.00	58	do	
	Harps	do	50.00	9 65	do	
	Violins, altos, guitars, mandolins, viols d'amour, zithers, and æolian harps.	do	2.00	39	do	
	Violoncellos	do	4.00	77	do	
	Counter bass-viols	do	8.00	1 54	do	
	Small flutes, flageolettes, and musettes—					
	With one key and ocarinas	Dozen	1.20	23	Dozen	
	With several keys	Piece	1.00	19	Piece	
	Flutes—					
	With one key	do	.20	04	do	
	With several keys	do	1.00	19	do	
	Hautboys, clarionets, English horns, bag-pipes.	do	2.00	39	do	
	Ophecleides, bombardons, and helicons	do	4.00	77	do	
	Bassoons, saxophones, sarussophones, and brass instruments with 6 pistons.	do	12.50	2 41	do	
	Clarions and trumpets	do	.80	15	do	
	Horns and corneta, in brass or horn	do	.30	06	do	
	Hunting horns	do	1.60	31	do	
	Cornets with 3 pistons, cornets with keys and pistons, néocors, harmony trumpets, sax horns, trombones, buccins, and bugles.	do	3.50	68	do	
	Chinese cymbals, large and small drums, chimes, &c.	do	2.50	48	do	
	Tambourines, triangles, and castanets	Pair	.50	10	Pair	
	Cymbals	do	1.50	29	do	
	Tantams and Chinese gongs	Piece	3.00	58	Piece	
	Accordeons and concertinas	do	1.00	19	do	
	Harmonicas (mouth) in wood or metal, jewsharps.	100 kilos	60.00	5 25	100 kilos	
	Music boxes	do	50.00	4 38	do	
	Accessories and parts of musical instruments—					
	Metronomes	Piece	1.00	19	Piece	
	Apparatus for mechanical playing of pianos and harmoniums.	do	40.00	7 72	do	
	Pedalers	do	40.00	7 72	do	
	Bows, finished or not, plain	do	.30	06	do	
	Bows, finished or not, richly incrusted	do	.60	12	do	

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
44	Musical instruments—Continued.					
	Accessories and parts of musical instruments—Continued.		*Francs.*			
	Anches, mouthpieces, and breaks for wind instruments.	Dozen	.50	$0 10	Dozen	
	Instrument cases of all sorts (duties on materials).					
	Detached portions of musical instruments not mentioned (duties on component materials).					
45	Naval stores:					
	European resins, and other resinous products.	100 kilos..	2.00	18	100 lbs	Gross.
	Coal-tar, bitumen, &c	....do	Free	.....	.....	
46	Oil cake	.....	Free	.....	.....	
47	Oils:					
	Animal oils—					
	Animal fat, except fish oil	.....	Free	.....	.....	
	Waste of fish oil and alkalies from the process of manufacturing chamois leather.	.....	Free	.....	.....	
	Fish oil	100 kilos ..	6.00	53	100 lbs	Gross.
	Vegetable oils—					
	Oil, olive, fixed pure	....do	4.50	39	....do	Gross.
	Oil, palm, cocoanut, toulouconna and illipé.	... do	1.00	09	....do	Gross.
	Oil, other	....do	6.00	53	....do	Gross.
	Oils, fixed, aromatic	....do	80.00	7 00	....do	Net.
	Oils, volatile, or essence of rose or rosewood.	....do	4,000.00	350 02	....do	Net.
	Oils, of orange, lemon, and their varieties.	....do	150.00	13 13	....do	Net.
	Oils, all other	....do	100.00	8 75	....do	Net.
	Mineral oils—					
	Petroleum and other mineral oils for illuminating purposes—					
	Crude	....do	18.00	1 57	....do	Net.
	Refined	....do	25.00	2 19	....do	Net.
48	Paraffine:					
	Crude, stearic acid	....do	10.00	88	....do	Gross.
	Wax, crude	....do	2.00	18	....do	Gross.
	Wax, manufactured, other than candles	....do	19.00	1 66	... do	Gross.
	Sealing-wax	....do	30.00	2 63	....do	Net.
49	Paints and painters' colors:					
	Ultramarine	....do	20.00	1 75	....do	Net.
	Prussian blue	....do	12.00	1 05	...do	Net.
	Carmines—					
	Common	....do	25.00	2 19	....do	Net.
	Fine	....do	200.00	17 51	....do	Net.
	Varnishes—					
	Alcohol	....do	30.00	2 63	....do	Net.
	Essence	....do	20.00	1 75	....do	Net.
	Oil, or essence and oil mixed	....do	40.00	3 50	....do	Net.
	Ink—					
	Writing, printing, or drawing	....do	20.00	1 75	....do	Net.
	Ivory black	....do	5.00	44	....do	Gross.
	Black, for printing in mild cut	....do	8.00	70	....do	Gross.
	Black, Spanish or lamp	....do	1.20	10	....do	Gross.
	Black, mineral (ore)	.....	Free	.....	.....	
	Pencils—					
	Crayon, simple slate	100 kilos ..	1.00	07	100 lbs	Gross.
	Carpenters', common, in soft wood	....do	35.00	3 06	....do	Net.
	Fine, in cedar or hard woods	... do	140.00	12 26	....do	Net.
	For pocket-books, with or without bone heads.	...do	240.00	21 01	....do	Net.
	Colors, ground, or otherwise prepared for painting.	....do	.25	02	....do	Gross.
	Earths, Cologne, Cassel, Italian, sienna, and umber.	....do	.50	04	....do	Gross.
	Green, Schweinfurt and mixed green; blue and green ashes.	....do	5.00	44	....do	Gross.
	Green, mountain, Brunswick, and others, formed by mixing chromate of lead and Prussian blue.	....do	5.00	44	....do	Gross.
	Talc, pulverized	....do	.25	02	....do	Gross.

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
			Francs.			
49	Paints and painters' colors—Continued.					
	Ground oil-colors, including carbonate of lead in oil.	100 kilos..	4.00	$0 35	100 lbs....	Gross.
	Water-colors, in paste for paper-hangings.	....do	7.50	66	....do	Gross.
	Colors, not specified, 5 per cent. ad valorem, with power to transfer to an equivalent specific duty.					
50	Paper and manufactures of:					
	NOTE.—All these are duties exclusive of the internal-revenue taxes on paper established by the laws of September 4, 1871, and June 21, 1873.					
	Paper, fancy, colored, marbled, honeycombed, covered or not covered with metal.	100 kilos.	25.00	2 19	....do	Net.
	Paper, other, of all sorts	....do	11.00	96	....do	Net.
	Paste, or card-board, in sheets	....do	11.00	96	....do	Net.
	Papier-maché	....do	11.00	96	....do	Net.
	Card-board cut and joined into boxes, covered with white or colored paper.	....do	36.00	3 15	....do	Net.
	Card-board, cut and joined; albums or card boxes, decorated with painting, stuffs, woods, straw-plaiting, or metals. (This relates to ornaments in common metals; albums and card-boxes ornamented in precious metals will clear separately under the heading of jewelry.)	....do	70.00	7 13	....do	Net.
	Books	.....	Free....	.....	.....	
	Engravings, stamps, prints, lithographs, photographs, and drawings of all sorts on paper.	.....	Free....	.....	.....	
	Geographical and marine maps	.....	Free....	.....	.....	
	Sheet music, engraved or printed	.....	Free....	.....	.....	
	NOTE.—All infractions of copyrights remain prohibited.					
	Cards, labels, printed, engraved, and colored.	100 kilos..	11.00	96	100 lbs....	Net.
	Playing cards (cards for children's play are classed under toys) (prohibited).					
	Pipes and conduits in bituminous paper	....do	1.25	41	....do	Gross.
51	Plated ware, articles gilded or silvered by plating, mercury, or electro-chemical processes.	....do	500.00	43 77	....do	Net.
52	Provisions:					
	Meat—					
	Fresh, butchers'	....do	7.00	61	....do	Gross.
	Game, poultry, and turtle	....do	20.00	1 75	....do	Net.
	Salted	.....	8.50	74	....do	Gross.
	Preserved in cans	.....	8.00	70	....do	Gross.
	Extracts of	.....	4.00	35	....do	Gross.
	Oleomargarine	.....	Free....	.....	.....	
	Lard	.....	Free....	.....	.....	
	Butter, fresh and melted	100 kilos..	13.00	1 14	100 lbs....	Net.
	Butter, salted	....do	15.00	1 31	....do	Net.
	Cheese, soft	....do	6.00	53	....do	Gross.
	Cheese, hard	....do	8.00	70	....do	Gross.
53	Quicksilver	.....	Free....	.....	.....	
54	Seeds	.....	Free....	.....	.....	
55	Soap:					
	Common	100 kilos..	6.00	53	100 lbs....	Gross.
	Perfumed	....do	12.00	1 05	....do	Net.
56	Spirits, distilled, and spirituous compounds:					
	Brandy, in bottles	Hectoliter of liquid.	30.00	22	Gallon of liquid.	
	Brandy, not in bottles	Hectoliter of pure alcohol.	30.00	22	Gallon of pure alcohol.	
	Other spirits	....do	30.00	22	....do	

Tariff of France on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
		Unit.	Duty.	Duty.	Unit.	
57	Spirits, distilled, and spirituous compounds—Continued.		*France.*			
	Liqueurs	Hectoliter of liquid.	40.00	$0 29	Gallon of liquid.	
	NOTE.—Products of which alcohol is a component part, besides the customs duties, are subject to the internal-revenue tax upon the alcohol used, according to the regulations determined upon by the Committee of Arts and Manufactures.					
57	Starch	100 kilos	6.00	53	100 lbs	Gross.
58	Sugar and molasses:					
	Sugar, brown, estimated to produce when refined—					
	98 per cent. or less	(*)	50.00	4 38	100 lbs. of refined sugar.	Net.
	More than 98 per cent	(†)	62.50	5 47	(‡)	Net.
	Sugar, refined—					
	Other than candied	(†)	62.50	5 47	(‡)	Net.
	Candied	(†)	67.00	5 86	(‡)	Net.
	Molasses:					
	For distilling purposes		Free			
	Other than for distilling purposes, having an absolute saccharine richness of—					
	50 per cent. or less	100 kilos	15.00	1 31	100 lbs	Net.
	More than 50 per cent	do	32.00	2 80	do	Net.
	Sirups and candies	do	62.50	5 47	do	Net.
59	Tin:					
	Ore		Free			
	In crude lumps, block tin, bars, or sheets		Free			
	Alloyed with antimony (Britannia metal) in ingots.	100 kilos	5.00	44	100 lbs	Gross.
	Pure or alloyed, hammered or rolled	do	6.00	53	do	Gross
	Filings and fragments of old manufactures.		Free			
	Pure or alloyed with antimony; vessels, pots, and other wares.	100 kilos	30.00	2 63	100 lbs	Net.
60	Tobacco:					
	In leaf or otherwise, for the Régie (monopoly).		Free			
	On private account (prohibited).					
	Manufactured for the Régie		Free			
	Manufactured tobacco for the personal use of the importer up to the amount of 10 kilos per year and per consignee subject to prohibition against offering for sale and under reserve of the administration granting permission—					
	Cigars and cigarettes	100 kilos	3,600.00	315 15	100 lbs	Net.
	Snuff and chewing tobacco	do	1,500.00	131 33	do	Net.
	Smoking tobacco from the Levant	do	2,500.00	218 86	do	Net.
	Smoking tobacco of all other source	do	1,500.00	131 32	do	Net.
	Other manufactured tobacco (prohibited).					
	Tobacco juice (Praiss) (prohibited).					
61	Vegetables:					
	Green		Free			
	Salted or preserved	100 kilos	3.00	26	100 lbs	Gross.
62	Wood, and manufactures of:					
	Woods, common, building wood, oak, elm, walnut, with or without bark, sawed or otherwise, and other woods of all dimensions, masts, materials, spars, handles and oars, horns, hop poles, cork (rough, rasped, and planks) and other common wood, fire-wood, charcoal, and kindling.		Free			
	Split splints	1,000	.10	02	1,000	
	Staff and tremails	1,000	.25	05	1,000	

* 100 kilos net weight of refined sugar.
† 100 kilos, net, of the actual weight.
‡ 100 pounds of the actual weight.

Tariff of France on products and manufactures of the United States—Continued.

Tariff classification.	Tariff rates of duty.		Equivalent in United States money.		Net or gross.
	Unit.	Duty.	Duty.	Unit.	
Wood, and manufactures of—Continued.					
For cabinet work—		*Francs.*			
Logs or sawed, more than two decimeters thick, and mahogany, box-wood, and others.	.....	.....	.....	.....	
Sawed two decimeters thick, or under.	100 kilos ..	1.00	$0 09	100 lbs	Gross.
Perfumed woods, dye-woods in logs or ground.	.....	Free	.....	.....	
Empty casks on stands or not—					
With wooden hoops	100 kilos ..	2.00	18	100 lbs	Gross.
With iron hoops	....do	2.50	22	....do	Gross.
Common brooms	.....	Free	.....	.....	
Pieces of frame-work, wheelwright's work, rough, cut out or sawed and shaped.	.....	Free	.....	.....	
Button molds	100 kilos ..	13.00	1 14	100 lbs	Net.
Common sabots (wooden shoes)	....do	12.00	1 05	....do	Net.
The same, painted, varnished, or lined with skins.	....do	25.00	2 19	....do	Net.
Boxes, in white wood	....do	2.00	18	....do	Gross.
Planks, freizes, and strips of parquet, planed and grooved—					
In oak or hard wood	....do	2.00	18	....do	Gross.
In pine or soft wood	....do	1.00	09	....do	Gross.
Wooden bushels, and other like articles in hard or soft wood, coarse or fine.	....do	4.00	35	....do	Gross.
Other articles in hard or soft wood	....do	7.00	61	....do	Gross.
Furniture:					
In bent wood, mounted or not	....do	7.00	61	....do	Gross.
Other than in bent wood—					
Seats without carving, inlaid work or ornaments of brass or copper, in common wood.	....do	7.00	61	....do	Gross.
The same in cabinet wood	....do	10.00	88	....do	Gross.
Seats, carved, inlaid or ornamented with brass or copper, in all kinds of wood.	....do	15.00	1 31	....do	Net.
Other than seats—					
Veneered, but without carving; inlaid work, or brass or copper ornaments.	....do	10.00	88	....do	Gross.
Veneered, carved, inlaid, ornamented with brass or copper.	....do	25.00	2 19	....do	Net.
Heavy, common wood	....do	5.00	44	....do	Gross.
Heavy, in hard woods, with or without moldings, but not carved, inlaid or ornamented with brass or copper.	....do	10.00	88	....do	Gross.
Heavy, in fine wood, carved, inlaid, or ornamented with brass or copper.	....do	18.00	1 57	....do	Net.
Stuffed and covered, all sorts, 15 per cent. above the foregoing duties according to the class of goods.					
Frames and moldings in wood, and gilt woods.	....do	15.00	1 31	....do	Net.
Wool:					
Including alpaca, llama, vicuna, yack, camel's hair, Australian and Cape of Good Hope, in bulk.	.....	Free	.....	.....	
Imported direct from country where produced.	.....	Free	.....	.....	
Waste wools	.....	Free	.....	.....	
Carded or combed	100 kilos ..	25.00	2 19	100 lbs	Net.
Dyed	....do	25.00	2 19	....do	Net.
Zinc:					
Ore, crude, or burnt, pulverized, or not	.....	Free	.....	.....	
In crude lumps, blocks, bars, or sheets	.....	Free	.....	.....	
Rolled	100 kilos ..	4.00	35	100 lbs	Gross.
Filings and fragments of old manufactures.	.....	Free	.....	.....	
Manufactures of zinc, all kinds	100 kilos ..	8.00	70	100 lbs	Gross.

The full French tariff was printed in No. 15 of the Consular Reports, 128. The modifications were given in No. 41, p. 439.

GERMANY.

Customs duties collected under German tariff laws.

[Prepared by Consul-General F. Raine.]

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
			Marks.	
1	Agricultural implements:			
	Manufactures of iron, coarse, not otherwise provided for, also in connection with wood.	100 kilos	6.00	$1 42
	Manufactures of iron, coarse, not otherwise provided for, polished, varnished.	....do	10.00	2 38
	Manufactures of wood, crude, not colored, only planed or carved, also iron mounted.	....do	3.00	71⅛
	Manufactures of wood made by joiners, turners, cartwrights, colored, varnished, stained, lacquered, polished.	....do	10.00	2 38
2	Animals:			
	Cattle, young up to two and a half years old	Head	6.00	1 42
	Hogs	....do	6.00	1 42
	Horses	....do	20.00	4 76
	Mules	....do	10.00	2 38
	Sheep	....do	1.00	23
	Cows	....do	9.00	2 14
	Steers	....do	9.00	2 14
	Oxen	....do	30.00	7 14
	Sucking pigs, under 10 kilograms	....do	1.00	23
	Calves, under six weeks old	....do	3.00	71
3	Art works:			
	Paintings and drawings		Free.	
	Statuary of marble and other stones, of metal at least in natural size; medals, cast in gypsum or sulphur (as statuary shall be considered only such productions as possess a real artistic value and as are not produced by mechanical way).		Free.	
4	Bark, and extracts:			
	Bark	100 kilos	0.50	11
	Tanning extracts		Free.	
5	Blacking	100 kilos	3.00	71
6	Bones (not for carving); bones, hoofs, horns, &c. (for carving).		Free.	
7	Books, in all languages, geographical and sea maps, paper written on (records and manuscripts), maps for scientific purposes, music, engravings.		Free.	
8	Brass		Free.	
	Brass cartridges and other brass articles	100 kilos	30.00	7 14
9	Breadstuffs:			
	Wheat, rye	....do	3.00	71
	Oats, barley	....do	1.50	35
	Indian corn, buckwheat	....do	1.00	23
	Rice	....do	4.00	95
	Grains, not otherwise provided for	....do	1.00	23
	Ordinary bakers' ware	... do	2.00	47
	Biscuit	....do	60.00	14 28
	Mill products of grain and pulse		7.50	1 78
10				
11	Brushes and brooms:			
	Brooms of brushwood			
	Brushes and brooms—			
	Coarse, of bast, straw, reed, grass, roots, &c.; also in connection with wood or iron, without polish and varnish.	100 kilos	4.00	95
	Others, also combined with wood or iron, without polish and varnish.	....do	8.00	1 90
	Coarse, of bristles or other animal substitutes, hair.	....do	8.00	1 90
12	Candles	....do	18.00	4 28
13	Carriages:			
	Only planed or carved		3.00	71
	Colored, stained, varnished, lacquered, polished, and the like.	100 kilos	10.00	2 38

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
13	Carriages—Continued.		*Marks.*	
	Cars, without leather not upholstered—			
	At a value of not less than 1,000 marks ($238) apiece, 6 per cent. ad valorem.			
	At a value of 1,000 marks ($238) and more, 6 per cent. ad valorem.			
	Other railroad, horse (street) cars, 10 per cent. ad valorem.			
	Other carriages with leather and upholstered...	100 kilos	150.00	$35 70
15	Chemicals:			
	Ethers of all kinds, chloroform, collodium, etheric oils, except those hereafter enumerated, essences, extracts, tinctures, and waters containing alcohol or ether, for the trade or medicinal use; all varnishes, except oil varnishes, painters' (gouache) pastil colors, Chinese ink, paint boxes, pencil and crayons drawing chalk.	....do	20.00	4 76
	Ultramarine	....do	15.00	3 57
	Oil of juniper and rosemary	....do	12.00	2 85½
	Matches and tapers	....do	10 00	2 38
	Oxalic acid and oxalite of potassium; yellow, white, and red prussiate of potassium.	....do	8.00	1 90
	Oil varnish	....do	6.00	1 42
	Caustic potash; caustic hydrate of soda	....do	4.00	95
	Alum, barytes white, printers' ink, chloride of lime, dye-wood extracts, gelatine, putty, glue, soot, shoe-blacking, sealing-wax, inks and ink powders, combustibles, except matches and tapers.	....do	3.00	71
	Soda, calcined; bicarbonate of soda	....do	2.50	59
	Soda, raw, natural or artificial; crystallized soda, potash.	....do	1.50	35
	Water (soluble) glass	....do	1.00	23
	Raw chemical preparations for industrial or medicinal uses, drugs, chemicals, and dye-stuffs not heretofore included.	.....	Free.	.....
	Preparations of strontia	100 kilos	2.00	47
16	Clocks and watches:			
	Watches, movements, and cases for such—			
	Watches in gold cases	Each	3.00	71
	Watches in silver cases; also gilded or with gilded or plated rims, rings, and buttons; movements without casings.	....do	1.50	35
	Watches in cases of other materials	....do	.50	11
	Gold cases without movements (works)	....do	1.50	35
	Other cases without works	....do	.50	11
	Clocks, staple	100 kilos	10.00	2 38
	Movements for other than staple clocks and watches, and parts of base metals.	....do	60.00	14 28
17	Coal	.....	Free.	.....
18	Copper:			
	Ore	.....	Free.	.....
	Copper, crude or scrap; copper and other small coins.	.....	Free.	.....
	Wrought or rolled copper, in bars and sheets, and telegraph cable.	100 kilos	12.00	2 86
	In sheets or wire, plated	....do	28.00	6 66
	Manufactures, viz—			
	Coarse coppersmiths' and brass-founders' work; also combined with wood or iron, not polished or lacquered; also tubes of sheet-brass and wire-cloth.	....do	18.00	4 28
	Other, provided they do not come under albuminium, nickel, fancy articles, &c., or by reason of their composition with other materials under No. 20 of the German tariff, fancy goods.	....do	30.00	7 14
	Albuminium, nickel, fancy articles, &c	....do	60.00	14 28
19	Cotton	.....	Free.	.....
	Manufactures of cotton alone or cotton with metal threads, unmixed with silk, wool, or other animal hair:			
	Raw (of raw yarn), close tissue, except cut velvets; net-lace, raw and not figured.	100 kilos	80.00	19 04
	Bleached, close tissue, also finished, excepting cut velvets.	....do	100.00	23 80

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
19	Cotton—Continued.		*Marks.*	
	Manufactures of cotton alone or cotton with metal threads, unmixed with silk, wool, or other animals hair—			
	All close tissues not included in Nos. 1, 2, 3, 6; raw (of raw yarn) light fabrics, excepting window curtains, not coming under No. 1; hosiery, laces, trimmings, and buttons; also goods spun in part with metal threads.	100 kilos	120.00	$28 50
	Curtain stuffs, bleached and finished	do	220.00	54 70
	All light fabrics, as jaconet, muslin, tulle, marly, gauze, not provided for.	do	200.00	47 60
	Laces and embroideries	do	350.00	83 30
	Cotton fishing nets, new	do	3.00	71
	Very coarse textures of raw spun cotton waste, also mixed with other materials, or single dyed threads, in pieces not over 50 centimeters square, having the appearance of gray packing linen, and used for press cloths, scrubbing cloths, &c.	do	10.00	2 38
	Emery cloth	do	6.00	1 42
20	Earthen, stone, and china ware:			
	Common bricks, tiles, tubes, and pottery not fire-proof, not glazed.		Free.	
	Fire-proof stones	do	.50	11
	Glazed tiles and bricks, clay slabs, architectural ornaments, also of terra cotta, glazed tubes, jars, and other vessels of common stoneware, coarse stove-tile, glazed pottery.	do	1.00	23
	Smelting pots, muffles, capsules, and retorts, plates.	do	2.00	47
	Other clay ware exclusive of porcelains and wares similar to porcelain—			
	Plain, colored, or white, fancy terra cotta ware.	do	10.00	2 38
	Two and more colored, bordered, printed, painted, gilded, silvered, &c.	do	16.00	3 80
	Porcelain and wares similar to porcelain (Parian, jasper, &c.)—			
	White	do	14.00	3 33
	Colored, bordered, painted, &c	do	30.00	7 14
21	Fertilizers		Free.	
22	Fish:			
	Fresh		Free.	
	Salted (except herrings), imported in barrels, dried, smoked, roasted, merely boiled.	do	3.00	71 1/10
	Pickled, in barrels	do	12.00	2 85
	Prepared, others, fish of all kinds imported in vessels hermetically closed.	do	60.00	14 28
	Herrings, salted	Cask	3.00	71 1/10
23	Flax, hemp, and jute		Free.	
	Ropemakers' articles—			
	Ropes, cables, and cords, also bleached or tarred.	100 kilos	10.00	2 38
	Others	do	24.00	5 71
	Linen, ticking, drilling, undyed, unprinted, and unbleached—			
	Up to 40 threads in the warp and woof together on a square woven surface of 4 square centimeters, undyed foot-rugs of manila hemp, cocoa, jute, and like fibers.	do	12.00	2 85
	With 41 to 80 threads in the warp and woof together on a square woven surface of 4 square centimeters, dyed foot rugs, as above.	do	24.00	5 71
	With 81 to 120 threads as above	do	36.00	8 56½
	More than 120 threads as above	do	60.00	14 28
	Linen, ticking, drilling, dyed, printed, bleached, also woven of dyed, printed, bleached yarn—			
	Up to 120 threads in the warp and woof together on a square woven surface of 4 square centimeters.	do	60.00	14 28

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
23	Flax, hemp, and jute—Continued.		*Marks.*	
	Linen, ticking, drilling, dyed, printed, bleached, also woven of dyed, printed, bleached yarn—			
	With more than 120 threads in the warp and woof together on a square woven surface of 4 square centimeters.	100 kilos	120.00	$14 28
	Damasks of all kinds	do	150.00	35 70
	Ribbons, galloons, fringes, gauzes, woven borders, loops, hosiery, tissues, and other goods in connection with metallic threads.	do	100.00	23 80
	Embroideries	do	150.00	35 70
	Thread lace	do	800.00	190 40
24	Fruits (tropical):			
	Fresh oranges, lemons, limes, pomegranates	do	12.00	2 86
	Figs, dried currants, raisins	do	24.00	5.71
	Dried dates, almonds, oranges, &c	do	30.00	7 14
	Fruits, preserved	do	60.00	14 28
	Fresh fruit, berries, &c	do	4.00	95
25	Furs:			
	Lined furs, caps, gloves, covers, trimmings	do	150.00	35 70
	Finished, not lined sheep-skins, washed and dyed, not lined angora or sheep skins.	do	6.00	1 43
26	Glass:			
	Green (other), natural-colored, common hollow glass.	do	3.00	71
	White hollow glass, not figured, not ground or cut, &c.	do	8.00	1 90
	Window and sheet-glass in its natural color, green, partly or entirely white, uncut, not figured, if the single length and breadth taken together measure—			
	Up to 120 centimeters	do	6.00	1 43
	Above 120 to 200 centimeters	do	8.00	1 90
	Above 200 centimeters	do	10.00	2.38
	Mirror glass, raw, not polished	do	3.00	71
	Plate (window) and mirror glass, cut polished, figured, ground, also colored and over laid.	do	24.00	5 71
	Ornaments for glass chandeliers, glass buttons, also colored, solid white glass, not especially provided for.	do	24.00	5 71
	Colored glass, not otherwise provided for, painted, gilded, silvered; glassware and enamel goods combined with other materials, not belonging to No. 20 (of the German tariff's fancy goods).	do	30.00	7 14
27	Glucose	do	15.00	3 57
28	Glue	do	3.00	71 4/5
29	Gunpowder		Free.	
30	Hair:			
	Hair of horses, raw		Free.	
	Braids of horse hair; textiles of mixed material of which either the entire warp or woof consists of horse hair.	do	48.00	11 42
	Human hair, raw	do	100.00	23 80
	Wigs and other hair articles	do	200.00	47 60
31	Hay		Free.	
32	Hides and skins		Free.	
33	Honey	do	20.00	4 76
34	Hops	do	20.00	4 76
35	Ice		Free.	
36	India-rubber manufactures:			
	Caoutchouc and gutta-percha		Free.	
	Caoutchouc threads	do	3.00	71 4/5
	Coarse articles of soft caoutchouc, not lacquered, not dyed, not painted, &c.	do	40.00	9 52
	Fancy articles of soft caoutchouc, lacquered, painted, &c.	do	60.00	14 28
	Tissues of all kinds, covered or saturated, or jointed together with layers of caoutchouc, or india-rubber threads, &c.	do	90.00	21 42
37	Iron and steel:			
	Pig-iron	do	1.00	24
	Wrought iron, in bars, tires, plowshares, T-iron, rails, bed-plates, and sleepers.	do	2.50	60

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
37	Iron and steel—Continued.			
	Plates and sheets of wrought iron—		*Marks.*	
	Rough	100 kilos	3.00	$0 71
	Polished, varnished, lacquered, coppered, tinned, zinced, or leaded.	....do	5.00	1 19
	Wire	....do	3.00	71 1/7
	Manufactures of iron—			
	Heavy articles—			
	Of cast iron	....do	2.50	60
	Of iron roughly wrought for machines and wagons, bridges, chains, anchors, &c.; railroads; anvils, vises, pulleys, &c.	....do	3.00	71 1/7
	Rolled and drawn tubes, and pipes of wrought iron.	....do	5.00	1 19
	Other heavy articles—			
	Not otherwise provided for, also combined with wood.	....do	6.00	1 42
	Smoothed, varnished, coppered, zinced, tinned, leaded, or enameled, but not polished or lacquered, &c.	....do	10.00	2 38
	Hand-files, sword blades, planes, chisels, scissors, saws, augers, knives, and the like.	....do	15.00	3 58
	Chains and wire cables for towing purposes:		Free.	
	Fancy iron articles—			
	Of fine cast iron, as light ornamental castings, polished castings, art castings, malleable castings.	100 kilos	24.00	5 71
	Wrought iron, polished or lacquered; cutlery, shears, knitting and crochet needles, sword-cutlery, &c.	....do	24.00	5 71
	Sewing needles, sheet pens, fire-arms of all kinds.	....do	60.00	14 28
38	Jewelry:			
	Articles, wholly or partly composed of precious metals, genuine pearls, corals, or precious stones, gold and silver leaf.	....do	600.00	142 80
39	Lamps:			
	Of copper or cast brass—			
	Not polished, not lacquered	....do	18.00	4 28
	Polished or lacquered	....do	30.00	7 14
	Of argenide, britannia metal, German silver, and similar alloys.	....do	60.00	14 28
	(Others, according to material.)			
40	Lead		Free.	
	Rolled lead, printing types	100 kilos	3.00	71
	Rough lead articles	....do	6.00	1 43
	Fancy articles	....do	24.00	5 71
41	Leather:			
	Leather of all kinds (excepting next item) not colored, colored Russia leather, parchment, boot-tops.	....do	18.00	4 28
	Sole leather, Brussels, Danish glove-leather, cordovan, morocco, saffian, colored leather, lacquered leather.	....do	36.00	8 57
	Coarse shoemakers', saddlers', strap-makers'	....do	50.00	11 90
	Fancy shoemakers', saddlers', strap-makers'	....do	70.00	16 69
	Gloves	....do	100.00	23 80
42	Lime and cement		Free.	
43	Malt liquors, beers of all kinds	100 kilos	4.00	
44	Medical instruments		Free.	
45	Naval stores resin, tar, turpentine, and pitch		Free.	
46	Oil cake and meal		Free.	
47	Oils:			
	Animal		Free.	
	Mineral, raw, and refined	100 kilos	6.00	1 42
	Mineral lubricating oils	....do	10.00	2 38
	Vegetables of all kinds in bottles and jars	....do	20.00	4 76
	Table oils: Olive, poppy, sesame, ground-nut, beech-nut, and sunflower oils in casks.	....do	10.00	2 38
	Linseed oil, cotton-seed oil, oleic acid	....do	4.00	95
	Olive, castor-oil in casks, adulterated by customs officers.	....do	2.00	47½
	Palm and coconnut oil	....do	2.00	47½
	Other oil in casks	....do	9.00	2 14

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
			Marks.	
48	Paraffine and wax:			
	Paraffine	100 kilos	10.00	$2 38
	Wax	do	15.00	3 57
49	Paints:			
	Skin powders, not perfumed		Free.	
	Paints perfumed	100 kilos	100.00	23 80
50	Paper:			
	Unbleached or bleached, half manufactured goods from rags.		Free.	
	Half-manufactured materials for paper-making; gray blotting-paper; paste-board, exclusive of polished and leather card-board; slate paper, &c.	100 kilos	1.00	23⅞
	Packing-paper, unpolished	do	4.00	95
	Packing-paper, polished; glance and leather card-board; pressing-board.	do	6.00	1 42
	Printing, writing, blotting, and silk paper; also lithographed, printed, ruled, for notes, labels, &c.	do	10.00	2 38
	Molded work of papier-maché, not painted or lacquered.	do	4.00	95
	Manufactures of paper, paste-board, papier-maché, lacquered or painted.	do	12.00	2 85
	Manufactures of above-named materials in combination with other materials.	do	24.00	5 71
51	Plated ware:			
	Articles wholly or partly of amber, celluloid, ivory, agate, jet, lava, meerschaum, mother-of-pearl, and tortoise shell of not precious metals gilded or silvered or covered with gold or silver, &c.	do	200.00	47 60
52	Provisions:			
	Meat cut up for sale, fresh and prepared meat extracts, and condensed beef juices for table.	do	20.00	4 76
	Oleomargarine	do	20.00	4 76
	Lard	do	10.00	2 38
	Butter, also artificial	do	20.00	4 76
	Cheese	do	20.00	4 76
53	Quicksilver		Free.	
54	Seeds:			
	Not otherwise provided for, dried, baked, powdered.	100 kilos	4.00	95
	For medicinal use		Free.	
	Rape, rape-seed, poppy, sesame, ground-nuts, and other oil fruits, not otherwise provided for.	100 kilos	2.00	47½
	Linseed, cotton-seed, castor-beans, palm-kernels, and koprah.		Free.	
	Anise, coriander, fennel, cumin	100 kilos	3.00	35½
	Other seeds (as agricultural produce)		Free.	
55	Soap:			
	Green, black, and other barrel soap	100 kilos	5.00	1 19
	Hard soap, not otherwise provided for	do	10.00	2 38
	Soap in cakes, balls, tins, jars, &c., perfumed soaps.	do	30.00	7 14
56	Spirits of all descriptions	do	80.00	19 04
57	Starch	do	9.00	2 14
58	Sugar:			
	Refined	do	30.00	7 14
	Raw	do	24.00	5 71
	Sirup	do	15.00	3 57
	Molasses, entered for manufacture of spirituous liquors, under control.		Free.	
59	Tin:			
	Raw		Free.	
	Rolled	100 kilos	3.00	71
	Coarse tin articles	do	6.00	1 42
	Fancy tin articles	do	24.00	5 71
60	Tobacco:			
	Leaf, unmanufactured, also stems and tobacco juices.	do	85.00	20 23
	Manufactured—			
	Cigars, cigarettes	do	270.00	64 26
	Other	do	180.00	42 84
61	Vegetables		Free.	

Customs duties collected under German tariff laws—Continued.

Number.	Articles.	Unit.	Rates of duty.	Equivalent in United States currency.
62	Wood:		*Marks.*	
	Fire-wood; pulp; wood for the manufacture of cellulose, not over 1 meter long and not over 18 centimeters thick at the smaller end; brushwood.	.....	Free.	.....
	Timber, cabinet wood—			
	Worked or hewn with ax or saw roughly, or solely in a diagonal direction, with or without bark; oaken barrel staves.	100 kilos	.20	$0 05
	With the ax, roughly hewn, in the direction of the longitudinal axis, or otherwise prepared, or split, than by rough-hewing; barrel staves, not coming under above; unpeeled osiers; hooping rods.	....do	.40	11½
	Sawn in the direction of the longitudinal axis; unplaned boards; sawn square timber, and other sawn and cut articles.	....do	1.00	23½
	Cut wood in cedars	....do	1.00	25
	Bruyère (Erika) wood in cut pieces	.....	Free.	.....
	Coarse, rough, undyed, coopers', turners', joiners', and only planed wood-ware and wagoners' work.	100 kilos	3.00	71
	Wood cut in veneers, not glued, not tinged for parquets.	....do	6.00	1 42
	Wooden furniture and parts of furniture, joiners', turners', coopers', wagoners' ware, tinged, lacquered, polished, varnished, &c.	....do	10.00	2 38
	Fancy manufactures of wood (with inlaid or carved work).	....do	30.00	7 14
63	Wool, raw	.....	Free.	.....
	Combed	100 kilos	2.00	47
	Manufactures, also mixed with cotton, linen, or metallic threads—			
	1. Cloth selvage	.....	Free.	.....
	2. Coarse felts, not printed, not dyed	100 kilos	3.00	71⅛
	3. Good rugs, containing threads of cattle hair.	....do	24.00	5 71
	4. Not printed felts; not belonging under No. 2; not printed felt goods and hosiery; good rugs, &c.	....do	100.00	23 80
	5. Unprinted cloths and stuffs, not included under Nos. 7 and 8—			
	If weighing more than 200 grams on the square meter of wooden surface.	....do	135.00	32 13
	If weighing less than 200 grams	....do	220.00	52 36
	6. Printed articles as far as they do not belong to foot-rugs, weighing more than 200 grams on the square meter of woven surface; also trimmings and button-makers' ware, plushes, weaving combined with metallic threads.	....do	150.00	35 70
	Printed articles, not foot-rugs, weighing 200 grams, or less than 200 grams on the square meter of woven surface.	....do	220.00	52 36
	7. Laces, tulles, or embroideries, woven shawls, with three or more colors.	....do	300.00	71 40
	8. Woven shawls, with five or more colors	....do	450.00	107 10
64	Zinc:			
	Raw	.....	Free.	.....
	Rolled	100 kilos	3.00	71
	Coarse zinc articles	....do	6.00	1 42
	Fancy zinc articles	....do	24.00	5 71

GREECE.

Customs duties collected under the tariff laws of Greece.

[Prepared by Consul William H. Moffett.]

Greek currency.—Lepton, the one-hundredth part of a drachma; 5 lepta = 1 cent, nearly; 1 drachma (dr.) = 19.3 cents.

Weights and measures.—Dram = one-tenth of an ounce avoirdupois, nearly; oke (400 drams) = 43.3 ounces avoirdupois, roughly 2¾ pounds; quintal = 44 okes; oke of wine = 2.829 pounds avoirdupois.

A municipal tax of 2 per cent. is to be added to the duties given in the accompanying schedule.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
			Drachmas.	
1	Agricultural implements	.....	Free	.....
2	Animals, living, without exception	.....	Free	.....
3	Art works:			
	Paintings unframed, statuary, casts, models, theatrical scenery, plans.	.....	Free	.....
	Small articles in bone, or imitation	Oke	3.00	$0 58
	Small articles in ivory, tortoise, or rhinoceros	do	20.00	3 86
	Articles in marble (not antique statues), natural or imitation, or alabaster.	do	.10	02
	Various articles of luxury	do	7.00	1 35
4	Bark and extracts:			
	Raw gums and all extracts of bark not manufactured or otherwise classed, and all substances used for dyeing and tanning, and all medicinal roots and barks.	.....	Free	.....
	Cork	Oke	.10	02
	Essence of lentisque	do	1.50	29
	Cinchona	Dram	.07	01⅓
5	Blacking for shoes, harness, &c	Oke	.30	06
6	Bones, hoofs, horns, &c.:			
	Unprepared	.....	Free	.....
	Prepared bones, &c., of elephants, rhinoceros, turtles	Oke	20.00	3 86
	All other prepared bones	do	3.00	58
7	Books, maps, engravings, &c	.....	Free	.....
8	Brass and manufactures of:			
	In plates or sheets, connections for machinery, tubes, and for printers' use.	.....	Free	.....
	Articles in rough work not specially classed, coffee mills, &c.	Oke	1.00	19 3/10
	Articles chased or enameled	do	2.00	38⅔
	Articles of rich ornamentation	do	3.00	58
	Cartridge cases	1,000	2.00	38⅔
9	Breadstuffs:			
	Wheat	Quintal	1.20	23
	Other cereals	do	.88	18
	Wheat flour	do	3.00	58
	Wheat flour from January 1, 1887	do	2.40	47
	Flour of all other cereals	do	1.76	34
	Rice and chestnut	Oke	.10	02
	Flour of rice and chestnut, and of barley	do	.20	04
	Biscuits—			
	Common	do	.15	03
	With sugar or butter	do	.80	16
	Dough	do	.20	04
	Farinaceous foods, sago, &c	do	.50	10
10	.....	.....	.....	.....
11	Brooms and brushes:			
	Common brooms	Oke	.20	04
	Brooms of better quality	do	.40	08
	Brushes, shoe, scrubbing, and house-painters'	do	.20	04
	Brushes—			
	Teeth, hair, shaving	do	3.00	58
	Clothes, of vegetable fiber	do	3.00	58
	Hair or feather	do	3.00	58
	Revolving, for barbers	Each	1.00	19 3/10
12	Candles:			
	Tallow	Oke	.20	04
	Beeswax (yellow)	do	1.25	25
	Stearine	do	2.00	38⅔
	White wax for churches	do	4.00	77

Customs duties collected under the tariff laws of Greece—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
			Drachmas.	
13	Carriages and horse cars:			
	Carriages—			
	Two-wheeled	Each	100.00	$19 30
	Four-wheeled	do	300.00	57 90
	Carts—			
	Two-wheeled	do	20.00	3 86
	Four-wheeled	do	40.00	7 72
	Hand carts, perambulators, &c	do	10.00	1 93
	Wagons for ice, furniture, brewers, and grocers	do	30.00	5 79
	Horse cars for passengers or merchandise, 10 per cent. ad valorem.			
14	Cars (railroad, steam), 10 per cent. ad valorem.			
15	Chemicals:			
	Not specially named		Free	
	Hair dyes	Oke	5.00	96½
	Volatile essences	do	3.00	58
	Drugs in general	do	.10	02
	Drugs patented	do	8.00	1 54
	Sirups of all kinds	do	2.00	38½
	Opium	do	6.00	1 16
	Musk	Dram	.55	11
	Saffron	do	.02	00½
16	Clocks and watches:			
	Clocks and parts	Oke	1.50	29
	Clocks, ornamental, and movements	do	2.50	48
	Clocks for public buildings		Free	
	Watches—			
	Gold or gilt	Each	5.00	96½
	Silver or plated	do	2.00	38½
	Other metal	do	1.00	19 3/10
	Watch-cases—			
	Gold or gilt	do	3.50	67
	Silver or plated	do	1.00	19 3/10
	Other metal	do	.50	10
	Watch movements	do	1.50	29
17	Coal		Free	
18	Copper:			
	Ore, ingots, bars, plates for sheathing, wire, nails, screws, tubes for printing and engraving.		Free	
	Various articles of copper or bronze, not specially named.	Oke	1.00	19 3/10
	Ornamental, carved, or gilt	do	2.00	38½
	Ornamental, combined with more precious metals	do	3.00	58
19	Cotton and manufactures:			
	Raw material		Free	
	Cotton wool in colors	Oke	1.00	19 3/10
	Yarn—			
	Unbleached to Eng. 24	do	.60	12
	Unbleached above Eng. 24	do	.80	16
	Bleached to Eng 24	do	.66	13½
	Bleached above Eng. 24	do	.88	18
	Thread dyed—			
	To Eng. 24	do	.80	16
	Above Eng. 24	do	1.04	21
	In oil	do	1.50	30
	Thread—			
	Twisted, add to above 20 per cent.			
	On spools or skeins	do	1.20	24
	Cloth—			
	Unbleached, up to 28 threads in 5 meters square	do	.66	13½
	28 to 36 threads in 5 meters square	do	.80	16
	36 to 44 threads in 5 meters square	do	.96	19
	44 to 56 threads in 5 meters square	do	1.12	22
	Bleached, add to above 25 per cent.			
	Dyed, add to above 60 per cent.			
	Webbing and wick	do	1.00	19 3/10
	Coarse cloth for servants' use	do	2.00	38½
	Muslins, cambrics, net, handkerchiefs, embroidery	do	6.00	1 16
	Velveteen, trimmings, chintz above threads, table covering, napkins.	do	3.00	58
	Canvas for sails	do	.20	04
	Manufactured clothing—			
	For men and boys, add to material 50 per cent.			
	For women and girls	do	15.00	2 90
20	Earthen, stone, and china ware:			
	Pottery of all kinds—			
	Unglazed		Free	
	Glazed	Oke	.04	00½
	Enameled one color	do	.14	02½
	In various colors, in relief, or gilt	do	.50	10

Customs duties collected under the tariff laws of Greece—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
20	Earthen, stone, and china ware—Continued.			
	Porcelain—		*Drachmas.*	
	Plain	Oke	1.00	$0 19.3/10
	Gilt or in relief	do	2.00	38.6
	China and Japanese ware and articles of luxury	do	7.00	1 35
21	Fertilizers		Free	
22	Fish:			
	Fresh		Free	
	Salt, dried, or smoked (except the following)	Oke	.20	04
	Dried or smoked sturgeons, shrimps, lobsters, sardines	do	1.00	19.3/10
	Stock and codfish	do	.10	02
	Eels, cuttle-fish, oysters	do	.50	10
	Caviare—			
	Black	do	2.00	38.6
	Red	do	.20	04
23	Flax, hemp, jute, and manufactures:			
	Raw material, cordage, wads, fish-nets		Free	
	Sacking, twine	Oke	.25	05
	Mats, canvas	do	.20	04
	Thread, sewing and embroidery	do	1.44	28
	All other threads, hemp or jute	do	.40	08
	Linen—			
	Up to 8 threads, in 5 millimeters square	do	.28	05.4
	8 to 12 threads in 5 square millimeters	Oke	1.10	21.3/10
	Over 12 threads	do	3.00	58
	Lace and embroidery	do	30.00	5 79
	Net, gauze, and other loose tissues	do	16.00	3 09
	Trimmings and underclothing	do	6.00	1.16
	Manufactured clothing—			
	For men and boys, add to material 50 per cent.			
	For women and girls, plain	do	20.00	3.86
	For women and girls, embroidered	do	30.00	5.79
24	Fruits, preserved:			
	Fresh, in general	do	.02	00.4
	Dried, in skin or shell	do	.10	2
	Dried, without skin or shell	do	.40	8
	With soft shell	do	.30	6
	Canned, jellies	do	2.00	38.6
	In wine or alcohol, same duty as the spirit.			
	For distilling or brewing, raisins and figs		Free	
25	Furs, manufactured, 20 per cent. ad valorem.			
26	Glass and manufactures:			
	Broken glass, glass powder		Free	
	Common bottles (not white) demijohns, &c	Oke	.06	1.2
	Glassware, white, not specially classed—			
	Plain, pressed, or with baked color	do	.20	4
	Cut or chased	do	.50	10
	Cut or chased and tinted	do	.80	16
	Window glass—			
	Common	do	.15	3
	Stained or ground	do	.30	6
	Plate	do	.40	8
	Watch crystals, lenses	do	3.00	58
	Beads, imitation stones, lusters, glass thread, balls, pendants, &c.	do	.70	14
	Spectacles, optical instruments		Free	
	Opera glasses	Oke	4.00	77
	Mirrors—			
	Small, in common frames	do	.50	10
	In gilt fames	do	1.00	19.3/10
	Not framed—			
	Up to ¼ square meter	do	1.00	19.3/10
	Up to 1 square meter	do	1.20	24
	Up to 1½ square meters	do	1.40	28
	Up to 2 square meters	do	1.60	32
	Up to 2½ square meters	do	1.80	35
	Up to 3 square meters	do	2.00	38.6
	Up to 3½ square meters	do	2.20	43
	Up to 4 square meters	do	2.40	48
	Above 4 square meters	do	2.60	51
	Framed, double the above.			
	Articles in glass mixed with other material not specially classed, 20 per cent. ad valorem.	do		
27	Glucose	do	.37	7.2
28	Glue:			
	Fish glue, mucilage	do	.20	4
	Gelatine, refined	do	1.00	19.3/10
	Wafers	do	2.00	38.6
29	Gunpowder:			
	For army, sportsmen, fireworks (also dynamite)	do	1.20	24
	Mining powder	do	.20	4

Customs duties collected under the tariff laws of Greece—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
			Drachmas.	
30	Hair:			
	Unprepared		Free	
	Human hair, prepared	Dram	.12	$0 02⅛
	Carpets, rugs, &c., of dogs' and calves' hair	Oke	.40	8
31	Hay		Free	
32	Hides and skins, raw or in salt		Free	
33	Honey		Free	
34	Hops		Free	
35	Ice		Free	
36	India-rubber and manufactures:			
	Raw material, plates, bands, tubes, hat-brims, diving suits.		Free	
	Overshoes	Oke	3.00	58
	Webbing, masques	do	2.00	38⅛
	Water-proof clothing and objects not specially classed	do	1.00	19⅛
37	Iron and steel and manufactures:			
	Iron ore, bars, plates, iron for naval construction, sheets, stanchions, steam boilers, motors and accessories, watering machines, fire engines, sewing-machines, divers' helmets, steel bars, rails, plates, and guns for army use.	do	Free	
	Common articles of cast-iron	Oke	.10	02
	Decorative articles for table use, buttons, chandeliers	do	.40	08
	Articles wrought—			
	With varnish or enamel	do	.25	05
	Gilt or galvanized	do	.50	10
	Iron safes	do	.20	04
	Metallic plates, mannikins	do	.30	06
	Nails, screws, tacks	do	.15	03
	Coffee-mills, sprinklers, scales	do	.40	08
	Padlocks	do	.60	12
	Knives with iron handles	do	.25	05
	Roasters, meat-cutters, and other domestic uses	do	1.00	19⅛
	Trays, painted or varnished	do	1.50	29
	Cages, refrigerators, wire safes, dish covers	do	2.00	38⅛
	Springs for carriages, &c	do	.10	02
	Articles of steel not specially classed—			
	Of common work	do	.50	10
	If finely wrought	do	2.00	38⅛
	Pocket knives—			
	Common	do	4.00	77
	Handles of ivory, pearl, tortoise, &c	do	10.00	1 93
	Table cutlery, common	do	1.00	19⅛
	Table cutlery and razors, fine	do	8.00	1 54
	Hunting knives	Each	3.00	58
	Foils, daggers	Oke	5.00	96½
	Swords, lances, &c	Each	1.00	19⅛
	Guns, hunting—			
	1 barrel, muzzle	do	2.00	38⅛
	1 barrel, breech	do	10.00	1 93
	2 barrels, muzzle	do	12.00	2 32
	2 barrels, breech	do	20.00	3 86
	Pistols, single barrel	Pair	5.00	96½
	Revolvers	Each	8.00	1 54
	Detached pieces, guns, &c	Oke	.60	12
38	Jewelry:			
	Unset stones, pearls, &c	do	Free	
	Imitation stones:			
	In common settings	do	3.00	58
	In silver	Dram	.06	01⅛
	Set in gold or platinum	do	.40	08
	Various articles in coral and amber	do	.10	02
	(Articles in ivory, pearl, tortoise, &c., 20 per cent. ad valorem.)			
39	Lamps:			
	Of all sorts, not specially classed, of tin, glass, terra-cotta, porcelain, &c	Oke	1.00	19⅛
	Of tin or iron	do	.40	08
	Of tin, plated or chased	do	10.00	1 93
	Gilt	Dram	.12	02⅛
	Silver	do	.06	01⅛
	Gold or platinum	do	.40	08
	For carriages, cars, &c.—			
	Common	Oke	2.00	38⅛
	Fine	do	3.00	58
	Japanned	do	7.00	1 35
	Of bone, mixed with common metal	do	3.00	58
	Of ivory, plain or mixed	do	20.00	3 86
	Of porcelain, painted	do	2.00	38⅛

Customs duties collected under the tariff laws of Greece—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
			Drachmas.	
40	**Lead and manufactures:**			
	Ore, pewter in bars or sheets, type and printers' ornaments		Free	
	Pipe, plates, roofing in rolls	Oke	.10	$0 02
	Shot, bullets	do	.20	04
	All other articles, lead toys, &c	do	1.00	19 3/10
41	**Leather and manufactures:**			
	Bands for machinery and for insides of hats		Free	
	Sole leather	Oke	1.00	19 3/10
	Calf skins, morocco, goat, hare, beaver, sheep, Russian, kip, colored or varnished	do	2.50	48
	Camel, leather and varnished skins	do	4.00	77
	Kid, musk-rat, and other rare animals	do	6.00	1 16
	Shoes—			
	Rough, laborers, army use, and hunting	do	2.70	53
	For ordinary use	do	8.00	1 54
	Slippers embroidered		30.00	5 79
	Belts, straps, army, hunting	do	4.80	93
	Flasks	do	.20	04
	Pipe-stems, bellows, satchels, writing-cases	do	1.00	19 3/10
	Saddles	Each	15.00	2 90
	Harness, holsters, saddle-bags, &c	Oke	3.00	58
	Portfolios, purses, note-books, and other small articles—			
	Common leather	do	5.00	96 1/2
	Fine leather	do	20.00	3 86
	Gloves without fur	Pair	.30	06
	Valises—			
	Plain without toilet	Oke	2.00	38 1/2
	Ornamented with metal	do	6.00	1 16
	With toilet, ordinary	Each	5.00	96 1/2
	With toilet, fine leather	do	20.00	3 86
	Toilet cases, 20 per cent. ad valorem.			
42	**Lime and cement**		Free	
43	**Malt liquors:**			
	Beer in barrels	Oke	.35	07
	Beer in bottles	do	.60	12
44	**Medical instruments**		Free	
45	**Naval stores, resin, tar, turpentine, &c**		Free	
46	**Oil cake and meal, not named.**			
47	**Oils, animal, mineral, vegetable:**			
	Olive, for table use	Oke	.50	10
	Ethereal oils	do	3.00	58
	Oil empyreumatical	do	.30	06
	Mineral (except petroleum)	do	.43	08 1/2
	Petroleum, Government monopoly (prohibited).			
	All other oils	do	.20	04
48	**Paraffine and wax:**			
	Beeswax, yellow, in bulk	do	.70	14
	White wax, sealing-wax, and stearine	do	1.20	23
	White wax in rolls	do	4.00	77
	Paraffine and all other artificial wax	do	.68	13 1/2
49	**Raw colors and all vegetable or mineral colors not fluid**		Free	
	Colors prepared in oil	Oke	.30	06
	Varnish:			
	In oil	do	.50	10
	In alcohol	do	.80	16
	Aniline colors	do	8.00	1 54
50	**Paper and manufactures:**			
	Pulp in all forms, sand-paper, tarred-paper, and drawing and music paper.		Free	
	Blotting-paper:			
	In rolls	Oke	.08	01 1/2
	Red, tissue, and printing	do	.16	03 1/2
	Writing paper, ordinary and for binding	do	.30	06
	Law paper, note, and paper hangings	do	.60	12
	For cigarettes and stamps, monopoly (prohibited).			
	For promissory notes, ornamental envelopes	do	2.00	38 1/2
	Paste-board boxes	do	1.00	10 3/10
	Articles of luxury, toys, collars, cuffs, masques	do	4.00	77
	Boxes for confectionery	do	5.00	96 1/2
	Articles of papier-maché, except buttons	do	3.00	58
	Playing cards	do	10.00	1 93
51	**Plated ware**	do	10.00	1 93
52	**Provisions:**			
	Meats, fresh, smoked, or in pickle, and eggs (except the following).		Free	
	Tongues, hams, sausages, meat extracts, canned meats, and all prepared animal foods not specially classed.	do	1.00	19 3/10

Customs duties collected under the tariff laws of Greece—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
			Drachmas.	
52	Provisions—Continued.			
	Lard—			
	For cooking	Oke	.50	$0 10
	For other uses	do	.20	04
	Condensed milk	do	1.00	19 3/10
	Butter—			
	Salt, for cooking	do	.60	12
	Table use	do	1.20	23
	Cheese—			
	In general	do	.80	16
	Cretan	do	.26	05 1/2
53	Quicksilver	do	.10	02
54	Seeds		Free	
55	Soap:			
	Laundry	Oke	.20	04
	Toilet, ordinary, without perfume	do	.40	08
	Toilet	do	5.00	96 1/2
56	Spirits:			
	Above 70 per cent	do	1.00	19 3/10
	Under 70 per cent	do	.70	14
	Liqueurs	do	2.00	38 1/2
	Wine—			
	In barrels	do	2.00	38 1/2
	Bottled (still)	do	3.00	58
	Bottled (sparkling)	do	5.00	96 1/2
57	Starch	do	.20	04
58	Sugar, molasses:			
	Cane and molasses		Free	
	Unrefined	Oke	.20	04
	Refined	do	.37	07 1/2
	Sweetmeats	do	3.00	58
59	Tin		Free	
60	Tobacco, leaf, cigars, cigarettes:			
	Leaf	Oke	6.00	1 16
	For narghile	do	5.00	96 1/2
	In rolls, for snuff or chewing	do	8.00	1 54
	Cut for cigarettes	do	11.00	2 12
	Cigars	do	14.00	2 70
61	Vegetables, fresh		Free	
	Potatoes	Oke	.02	00 1/2
	Olives	do	.06	01 1/2
	Truffles, canned vegetables	do	1.00	19 3/10
62	Wood, and manufactures:			
	For fuel, naval construction, cars, pumps, and other articles for use of ships (not furniture or articles of luxury).		Free	
	For building purposes	Oke	.02	00 1/2
	Hoops	do	.00 1/2	00 1/10
	Staves, clap-boards, and beech-wood in general	do	.01	00 1/2
	Walnut, box, ebony, mahogany	do	.06	01 1/2
	Veneering	do	.30	06
	Articles of common wood, gilt or chased, canes, beads, spindles, spinning wheels, &c.	do	1.50	29
	Wooden toys	do	4.00	77
	Other articles of common wood, not specially classed, trunks, bowls, safes, &c.	do	.10	02
	Pipe bowls of chibouques	do	6.00	1 16
	Articles in fine wood, cedar trunks, or of palm, canes, &c.	do	3.00	58
	Furniture—			02
	Common, not covered	do	.10	
	Covered	do	.20	04
	Carved or gilt, not covered	do	.40	08
	Carved, covered	do	.60	12
	Fine wood, not covered	do	.80	16
	Covered plain	do	1.00	19 3/10
	Richly covered	do	1.60	31
	Gilt, chased, or ornamental—			
	Not covered	do	2.00	38 1/2
	Partly covered	do	3.00	58
	Richly covered	do	4.00	77
63	Wool:			
	In natural condition		Free	
	Woolen yarn, unbleached, and felt for men's hats		Free	
	Yarn, bleached or dyed	Oke	5.40	1 04
	Coarse cloth, serge, belts, blankets	do	.50	10
	Carpets—			
	Rugs, printed felt	do	1.20	23
	Rugs, woven or dyed	do	3.00	58
	Persian or Georgian	do	6.00	1 16
	For hangings	do	10.00	1 93

Customs duties collected under the tariff laws of Greece—Continued.

Number	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States money.
63	Wool—Continued.		*Drachmas.*	
	Flannels in colors—			
	Coarsely woven, stockings, shawls, haver-sacks, sailors' caps, bed covers, &c.	Oke	1.00	$0 21
	Finely woven	...do	5.00	96½
	Trimmings, fringes, traveling rugs	...do	6.00	1 16
	Shawls, cashmere or merino	...do	12.00	2 32
	Tissues to weight of—			
	100 grams per square millimeter	...do	12.00	2 32
	200 grams per square millimeter	...do	8.00	1 54
	350 grams per square millimeter	...do	5.00	96½
	Above 350 grams per square millimeter	...do	2.00	38
	Part cotton up to 200 grams per square millimeter	...do	1.75	34
	Above 200 grams per square millimeter	...do	1.00	19 3/16
	Clothing for men and boys—			
	Light, for summer	...do	6.50	1 25
	Heavy, for winter	...do	4.50	87
	Part cotton	...do	2.50	48
	For women and girls	...do	15.00	2 90
	Felt hats for women	Each....	1.00	19 3/16
64	Zinc:			
	In blocks, pigs, or sheets	.....	Free	.....
	Articles in coarse work	Oke.....	.40	08
	Articles in fine work or mixed with other metals	...do	1.60	10 3/16

THE NETHERLANDS.

Tariff of import duties.

[Compiled by Consul Richard Stockton.]

Number.	Articles.	Unit.	Duty.	Equivalent in United States money.
			Guilders.	
1	Agricultural implements		Free	
2	Animals:			
	Cattle		Free	
	Hogs		Free	
	Horses		Free	
	Mules		Free	
	Sheep		Free	
	All others		Free	
3	Art works		Free	
4	Bark and extract		Free	
5	Blacking	Value	5 per cent.	
6	Bones, hoofs, horns, &c		Free	
7	Books, maps, engravings		Free	
8	Brass		Free	
	Manufactures	Value	5 per cent.	
9	Breadstuffs:			
	Barley		Free	
	Bread and biscuits		Free	
	Sweet biscuits	100 kilos	25.00	$10 00
	Indian corn		Free	
	Oats		Free	
	Rye		Free	
	Wheat		Free	
	Flour		Free	
10				
11	Brooms and brushes	Value	5 per cent.	
12	Candles:			
	Tallow	100 kilos	3.00	1 20
	Wax	Value	5 per cent.	
13	Carriages and horse-cars	do	5 per cent	
14	Cars, railroad, steam	do	5 per cent.	
15	Chemicals		Free	
16	Clocks and watches	Value	5 per cent.	
17	Coal		Free	
18	Copper:			
	Ore		Free	
	Ingots, bar		Free	
	Sheet		Free	
	Copper ware	Value	5 per cent.	
19	Cotton		Free	
	Manufactures	Value	5 per cent.	
20	Earthen, stone, and china ware	do	5 per cent.	
21	Fertilisers		Free	
22	Fish		Free	
	Canned	100 kilos	25.00	10 00
23	Flax, hemp, and jute		Free	
	Manufactures	Value	5 per cent.	
24	Fruit:			
	Fresh or dried	do	5 per cent.	
	In brandy, vinegar, or brine	do	10 per cent.	
	In sirup or sugar	100 kilos	18.00	7 20
	Canned	do	25.00	10 00
25	Furs	Value	5 per cent.	
26	Glass, manufactures	do	5 per cent.	
27	Glucose		Free	
28	Glue		Free	
29	Gunpowder	100 kilos	5.00	2 00
30	Hair		Free	
	Manufactures	Value	5 per cent.	
31	Hay		Free	
32	Hides and skins		Free	
	Manufactures	Value	5 per cent.	
33	Honey	100 kilos	2.50	1 00
34	Hops		Free	
35	Ice		Free	
36	India-rubber manufactures	Value	5 per cent.	

Tariff of import duties—Continued.

Number.	Articles.	Unit.	Duty.	Equivalent in United States money.
			Guilders.	
37	Iron and steel		Free	
	Manufactures	Value	5 per cent.	
	Cannon and field-pieces	100 kilos	1.25	$0 50
38	Jewelry		Free	
39	Lamps	Value	5 per cent.	
40	Lead		Free	
	Manufactures	Value	5 per cent.	
41	Leather		Free	
	Manufactures	Value	5 per cent.	
42	Lime and cement		Free	
43	Malt liquors	Hectoliter	3.00	1 20
44	Medical instruments	Value	5 per cent.	
45	Naval stores:			
	Rosin		Free	
	Tar		Free	
	Turpentine and pitch		Free	
46	Oil cakes and meal		Free	
47	Oils:			
	Animal		Free	
	Mineral	100 kilos	.55	22
	Vegetable	do	.55	22
48	Paraffine and wax		Free	
49	Paints:			
	In oil	Value	5 per cent.	
	Other		Free	
50	Paper	Value	5 per cent.	
	Manufactures	do	5 per cent.	
51	Plated ware	do	5 per cent.	
52	Provisions:			
	Meat of all kinds not otherwise provided for—			
	Fresh or salt	100 kilos	6.00	2 40
	Smoked or dried	do	8.00	3 20
	Mutton and pork—			
	Salt	100 kilos	1.00	40
	Smoked or dried	do	1.25	50
	Fresh		Free	
	Oleomargarine		Free	
	Lard		Free	
	Butter		Free	
	Cheese	100 kilos	5.00	2 00
53	Quicksilver		Free	
54	Seeds		Free	
55	Soap	100 kilos	4.50	1 80
	Perfumed	do	6.00	2 40
56	Spirits	Hectoliter	3.50	1 40
57	Starch		Free	
58	Sugar		Free	
	Molasses	100 kilos	6.00	2 40
59	Tin	Value	5 per cent.	
60	Tobacco:			
	Leaf	100 kilos	.70	28
	Manufactured	do	12.00	4 80
	Cigars	do	40.00	16 00
	Cigarettes	do	40.00	16 00
61	Vegetables:			
	Fresh and dried		Free	
	In brine	Value	5 per cent.	
	Canned	100 kilos	25.00	10 00
62	Wood		Free	
	Manufactures	Value	5 per cent.	
63	Wool		Free	
64	Zinc		Free	
	Manufactures	Value	5 per cent.	

Internal-revenue tax which must be paid in addition to the import duties given in the above list for the articles mentioned therein.

Number.	Articles.	Standard.	Tax.	Equivalent in United States money.
			Guilders.	
55	Soap	100 kilos	10.00	$4 00
56	Spirits	Hectoliter of 50 per cent.	60.00	24 00
58	Sugar:			
	Candy—			
	First class	100 kilos	31.86	12 75
	Second class	do	28.89	11 56
	Loaf sugar, and all other kinds not otherwise provided for.	do	27.00	10 80
	Raw sugar of higher degree than 99 per cent	do	27.00	10 80
	Raw sugar of less degree than 99 per cent	100 kilos per degree.	.27	10.8
	Bastard sugar	do	.27	10.8
	Melada, including all sugar juices, unfinished sirup and molasses, which contain more than 10 per cent. firm ingredients of sugar, or, in liquid state, have a sugar degree of more than 50 per cent.	100 kilos	18.00	7 20
	Grape sugar	do	18.00	7 20

The full tarriff of The Netherlands was printed in Consular Reports No. 69, p. 197.

ITALY.

Customs duties collected under the present tariff laws of Italy.

[Prepared by Consul-General William L. Alden.]

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
1	Agricultural implements:		Francs.	
	Wood, neither polished nor painted		Free	
	Rough cast-iron	100 kilos	4.00	$0 77⅛
	Smooth cast-iron	do	5.00	96¼
	Scythes and sickels of steel or iron or both	do	10.00	1 93
	All other implements of iron or steel or both	do	12.00	2 31⅛
	Agricultural machines and parts of machines	do	6.00	1 15⅝
	All other implements of wood	do	8.00	1 54⅛
2	Animals:			
	Bulls and oxen	Each	15.00	2 89½
	Cows	do	7.50	1 44¾
	Calves	do	2.00	38⅝
	Heifers and young bulls that have not entirely lost their milk teeth.	do	5.00	96¼
	Hogs weighing 20 kilos (44.080 pounds) or less	do	.75	14⅜
	Hogs weighing more than 20 kilos (44.080 pounds)	do	2.50	48⅛
	Mules	do	6.00	1 15⅝
	Horses		Free	
	Sheep	do	.20	3.86/100
	Asses	do	1.50	28.94/100
3	Art works		Free	
4	Bark:			
	Dyeing and tanning, not ground	100 kilos	Free	
	Dyeing and tanning, ground	do	2.00	38⅝
	The aromatic laurel of India	do	120.00	23.16
	Cocoa	do	80.00	15.44
	Peruvian		Free	
	Other medicinal barks	100 kilos	10.00	1 93
	Extracts for dyeing	do	12.00	2 31⅛
	Extracts for tanning		Free	
	Salt of quinine	100 kilos	5.00	96¼
	Powdered quinine and extracts of quinine, comprising elixirs, sirups, and wine containing quinine.	do	120.00	23.16
	Arseniate phosphate, milk sulphate, citrate and valerianate of quinine.	do	5.00	96¼
	Other medicinal extracts of barks	do	120.00	23 16
5	Blacking	do	5.00	96¼
6	Bones, hoofs, and horns:			
	Whalebone prepared for umbrellas	do	30.00	5 79
	Whalebone prepared or cut for other purposes	do	60.00	11 58
	Whalebone, crude or unprepared		Free	
	Calcined bones (for fertilizing)		Free	
	Bone black	100 kilos	.50	9.65/100
	Bones (crude) not hereinabove named		Free	
	Cuttle-fish bone		Free	
	Bones, manufactured	100 kilos	60.00	11 58
	Horn of rhinoceros, crude		Free	
	Horn of all other animals, crude		Free	
	Horn, polished	100 kilos	60.00	11 58
	Horn, scrapings and clippings of		Free	
	Horn, burnt	100 kilos	.50	9.65/100
	Hoofs, good only for fertilizers		Free	
	Hoofs, all other		Free	
7	Books, maps, and engravings:			
	Blank books—			
	Unbound or bound in cloth or boards	100 kilos	10.00	1 93
	Bound in leather or parchment	do	15.00	2 89½
	Bound in any other way, including velvet, silk, ivory, mother-of-pearl, tortoise shell, and Russia leather, or ornamented with gold, silver, or metal, gilded or silvered.	do	100.00	19 30
	Printed books—			
	Unbound or bound in paper		Free	
	Bound in board	100 kilos	12.00	2 31⅛

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
7	Books, maps, and engravings—Continued.			
	Printed books—Continued.		Francs.	
	Bound in leather, cloth, and parchment	100 kilos	20.00	$3 86
	Bound in every other way, including velvet, silk, ivory, mother-of-pearl, tortoise shell, and Russian leather, or ornamented with gold, silver, or metal, gilded or silvered.	....do	100.00	19 30
	Maps—			
	Geographical		Free	
	In relief, also with frames	100 kilos	60.00	11 58
	(Bound, classed as printed books and taxed according to the binding.)			
	Engravings	....do	50.00	9 66
	Framed, and with glass of common quality	....do	60.00	11 58
	Framed, and with glass of fine quality	....do	100.00	19 30
8	(Brass, classed with copper and taxed as such.)			
9	Breadstuffs:			
	Oats	Ton	11.50	2 21.$\frac{44}{100}$
	Rye			
	Wheat	Ton	14.00	2 70
	Barley		Free	
	Indian corn	Ton	11.50	2 21.$\frac{44}{100}$
	Flour	100 kilos	2.77	53
	Bread and sea biscuit	....do	5.59	1 06.$\frac{8}{10}$
10	Bricks		Free	
11	Brooms:			
	Common, of twigs		Free	
	Common, of broom-corn, or of twigs finished with leather	100 kilos	60.00	11 58
	Fine, of other materials	....do	100.00	19 30
	Broom-corn and twigs for brooms		Free	
12	Candles:			
	Wax, yellow	100 kilos	20.00	3 86
	Wax, white	....do	30.00	5 79
	Stearine	....do	15.00	2 89.$\frac{4}{10}$
	Paraffine	....do	15.00	2 89.$\frac{4}{10}$
	Fossil or vegetable wax	....do	15.00	2 89.$\frac{4}{10}$
	Tallow	....do	1.00	19.$\frac{3}{10}$
	Spermaceti, also when mixed with wax or tallow	....do	40.00	7 72
	Palm or cocoa	....do	1.00	19
13	Carriages and horse-cars:			
	Carriages, two-wheeled	Each	33.00	6 37
	Carriages, with more than two wheels and not more than five springs.	....do	110.00	21 23
	Carriages, with more than two wheels and five springs	....do	330 00	65 89
	Horse-cars for freight and baggage	100 kilos	7 00	1 35.$\frac{1}{10}$
	Horse-cars for passengers	....do	13 00	2 50.$\frac{1}{10}$
14	Railway cars:			
	Freight and baggage	....do	7 00	1 35.$\frac{1}{10}$
	Passenger	....do	13.00	2 50.$\frac{1}{10}$
15	Chemicals:			
	Acid—			
	Arsenious	....do	2.00	38$\frac{1}{2}$
	Boracic		Free	
	Gallic, tannic, and impure acetic		Free	
	Nitric or hydrochloric	100 kilos	1.00	19.$\frac{3}{10}$
	Sulphuric	....do	.50	9.$\frac{65}{100}$
	Stearic, not manufactured	....do	8.00	1 54$\frac{1}{2}$
	Tartaric	....do	8.00	1 54$\frac{1}{2}$
	All others	....do	10.00	1 93
	Ammonia, potash, and pure caustic soda	....do	5.00	96$\frac{1}{2}$
	Impure caustic soda	....do	.50	9.$\frac{65}{100}$
	Salts of quinine (see Bark and Extracts)	Kilo	5.00	96$\frac{1}{2}$
	All other alkaloids and their salts	....do	5.00	96$\frac{1}{2}$
	Oxide of iron, lead, tin, and zinc	100 kilos	2.00	38$\frac{1}{2}$
	Acetate of alumina, iron, lead, and copper	....do	1.00	19.$\frac{3}{10}$
	Carbonate of baryta	....do	2.00	38$\frac{1}{2}$
	Carbonate of magnesia	....do	25.00	4 83
	Carbonate of lead	....do	5.00	96$\frac{1}{2}$
	Carbonate of soda and potash	....do	.50	9.$\frac{65}{100}$
	Magnesia, calcined or caustic	....do	20.00	3 86
	Chloride of lime, potash, and soda, including hypochlorides	....do	1.00	19.$\frac{3}{10}$
	Chloride of potassium		Free	
	Chloride of magnesia	100 kilos	1.00	19.$\frac{3}{10}$
	Nitrate of silver	Kilo	5.00	96$\frac{1}{2}$
	Nitrate of soda, refined, and of potash	100 kilos	3.00	57.$\frac{9}{10}$
	Nitrate of crude soda		Free	
	Borax and borate of soda	100 kilos	.50	9.$\frac{65}{100}$

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
15	Chemicals—Continued.			
	Salt (prohibited).			
	(Every mixture containing soluble salt in which chlorine is present in the proportion of 15.2 per cent., and sodium in the proportion of 9.8 per cent., is classed as salt, and prohibited.)		*Francs.*	
	Sulphate of alumina, potash, and alum	100 kilos ..	.50	$0 09.44/100
	Sulphate of baryta	....do	1.00	19.4/100
	Sulphate of iron and manganese	... do	2.00	38½
	Sulphate of copper and zinc, and bisulphate of iron and copper.	....do	2.00	38½
	Sulphate of magnesia	....do	1.50	28.44/100
	Sulphate of soda and potash	....do	.50	9.44/100
	Bitartrate of potash	.....	Free	.....
	Sulphuret of mercury, cinnabar, or vermilion	100 kilos ..	100.00	19 30
	Matches, of wood	....do	11.00	2 12
	Matches, of stearine, wax, and the like	....do	11.00	2 12
	Liquorice root	.....	Free	.....
	Herbs, flowers, leaves, lichens, and roots, not classed as medicinal.	100 kilos ..	2.00	38½
	Cassia and tamarind	....do	7.00	1 35.1/100
	Manna	....do	10.00	1 93
	Camphor, crude	....do	2.00	38½
	Camphor, refined	....do	15.00	2 89½
	Orange and lemon peel, fresh and dried	.....	Free	.....
	Sealing wax	100 kilos ..	30.00	5 79
	Perfumery, containing alcohol	....do	37.50	7 23½
	Perfumery, non-alcoholic	....do	12.00	2 31½
	Soap. (See Soap.)			
	Gunpowder and other explosives	....do	150.00	28 96
	Cartridges, empty, without percussion caps	....do	60.00	11 58
	Cartridges, empty, with percussion caps	....do	60.00	11 58
	Cartridges, charged	....do	150.00	28 96
	Cartridges, percussion caps	....do	150.00	28 96
	Juice of orange, lemon, and citron	.....	Free	.....
	Juice of aloes, and other medicinal vegetables not specially named.	100 kilos ..	10.00	1 93
	Gums and resins	.....	Free	.....
	Medicines not specially named, including effervescing citrate of magnesia.	100 kilos ..	120.00	23 16
	Eau de Javelle (classed as chloride of lime)	....do	1.00	19.4/100
	Mineral waters, natural and artificial	....do	.50	9.44/100
16	Clocks and watches:			
	Clocks, church and public building	....do	20.00	3 86
	Clocks, house	Each	5.00	96½
	Watches, gold	....do	3.00	57.9/100
	Watches, other metals	....do	1.00	19.3/100
	Chronometers	100 kilos ..	30.00	5 79
	Sun, sand, and water clocks	....do	60.00	11 58
	Clock movements, church and public building	....do	20.00	3 86
	Clock movements, house	....do	50.00	9 66
	Watch movements	....do	.25	4½
17	Coal	.....	Free	.....
18	Copper, classed with and including brass and bronze:			
	Ore	.....	...do	.....
	Rough copper	100 kilos..	4.00	77½
	Bars, sheets, and tubes	....do	10.00	1 93
	Wire, less than 5 millimeters in thickness	....do	15.00	2 89½
	Hammered, in coarse work	....do	15.00	2 89½
	Otherwise worked	....do	25.00	4 83
	Wire or bars, gilded or silvered	....do	100.00	19 30
	Wire, gilded or silvered, and woven into textile fabrics	....do	100.00	19 30
	Other manufactures, gilded or silvered	....do	120.00	23 16
	On cylinders and blocks engraved for the press	.....	Free	.....
	Nails	100 kilos ..	10.00	1 93
	Bolts	....do	15.00	2 89½
	Tacks, including iron tacks with copper or brass heads	....do	60.00	11 58
	Threads, for the use of tailors, dressmakers, &c	....do	60.00	11 58
19	Cotton:			
	Bales, or in mass	.....	Free	.....
	Wadding	100 kilos ..	6.00	1 15½
	Thread—			
	Untwisted and unbleached, measuring not over 10,000 meters (=1,936⅛ yards) for every half kilogram (=1.102 pounds).	....do	18.00	3 47
	Measuring from 10,000 meters (=1,936⅛ yards) to 20,000 meters (=3,872¼ yards) for every half kilogram (=1.102 pounds).	....do	22.00	4 24

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			Francs.	
19	Cotton—Continued.			
	Thread—Continued.			
	Untwisted and unbleached, &c.—Continued.			
	Measuring from 20,000 to 30,000 meters (=5,808¼ yards) for every half kilogram (=1.102 pounds).	100 kilos ..	26.00	$5 02
	Measuring from 30,000 to 40,000 meters (=7,744⅓ yards) for every half kilogram (=1.102 pounds).	....do	32.00	6 17
	Measuring from 40,000 to 50,000 meters (=9,680⅝ yards) for every half kilogram (=1.102 pounds).	....do	39.00	7 53
	Measuring from 50,000 to 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	48.00	9 26
	Measuring more than 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	60.00	11 58
	Untwisted and bleached, measuring not more than 10,000 meters (=1,936⅓ yards) for every half kilogram (=1.102 pounds).	....do	21.60	4 16⅝
	Measuring from 10,000 to 20,000 meters (=3,872⅔ yards) for every half kilogram (=1.102 pounds).	....do	26.40	5 09⅓
	Measuring from 20,000 to 30,000 meters (=5,808⅓ yards) for every half kilogram (=1.102 pounds).	....do	31.20	6 02 1/10
	Measuring from 30,000 to 40,000 meters (=7,744⅔ yards) for every half kilogram (=1.102 pounds).	....do	38.40	7 41 1/10
	Measuring from 40,000 to 50,000 meters (=9,680⅝ yards) for every half kilogram (=1.102 pounds).	....do	46.80	9 05⅓
	Measuring from 50,000 to 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	57.60	11 11⅝
	Measuring more than 60,000 meters (=13,416⅝ yards) for every half kilogram (=1.102 pounds).	....do	72.00	13 88
	Untwisted and dyed, measuring not more than 10,000 meters (=1,936⅓ yards) per every half kilogram (=1.102 pounds).	....do	43.00	8 29
	Measuring from 10,000 to 20,000 meters (=3,872⅔ yards) for every half kilogram (=1.102 pounds).	....do	47.00	9 07
	Measuring from 20,000 to 30,000 meters (=5,808⅓ yards) for every half kilogram (=1.102 pounds).	....do	51.00	9 85
	Measuring from 30,000 to 40,000 meters (=7,744⅓ yards) for every half kilogram (=1.102 pounds).	....do	57.00	10 99
	Measuring from 40,000 to 50,000 meters (=9,680⅝ yards) for every half kilogram (=1.102 pounds).	....do	64.00	12 34
	Measuring from 50,000 to 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	73.00	14 07
	Measuring more than 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	85.00	16 40
	Twisted and unbleached, measuring not more than 10,000 meters (=1,936⅓ yards) for every half kilogram (=1.102 pounds).	....do	23.40	4 41⅝
	Measuring from 10,000 to 20,000 meters (=3,872⅔ yards) for every half kilogram (=1.102 pounds).	....do	28.60	5 41 5/10
	Measuring from 20,000 to 30,000 meters (=5,808⅓ yards) for every half kilogram (=1.102 pounds).	....do	33.80	6 52 5/10
	Measuring from 30,000 to 40,000 meters (=7,744⅓ yards) for every half kilogram (=1.102 pounds).	....do	41.60	8 02⅓
	Measuring from 40,000 to 50,000 meters (=9,680⅝ yards) for every half kilogram (=1.102 pounds).	....do	50.70	9 78⅓
	Measuring from 50,000 to 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102).	....do	62.40	12 04 5/10
	Measuring more than 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	78.00	15 06
	Twisted and bleached, measuring not more than 10,000 meters (=1,936⅓ yards) for every half kilogram (=1.102 pounds).	....do	28.08	5 41⅝
	Measuring from 10,000 to 20,000 meters (=3,872⅔ yards) for every half kilogram (=1.102 pounds).	....do	34.32	6 62 5/10
	Measuring from 20,000 to 30,000 meters (=5,808⅓ yards) for every half kilogram (=1.102 pounds).	....do	40.56	7 82⅓
	Measuring from 30,000 to 40,000 meters (=7,744⅓ yards) for every half kilogram (=1.102 pounds.)	....do	49.92	9 63⅓
	Measuring from 40,000 to 50,000 meters (=9,680⅝ yards) for every half kilogram (=1.102 pounds).	....do	60.84	11 74⅓
	Measuring from 50,000 to 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	74.88	14 45 5/10
	Measuring more than 60,000 meters (=11,616¾ yards) for every half kilogram (=1.102 pounds).	....do	93.60	18 06⅓
	Twisted and dyed, not measuring more than 10,000 meters (=1,936⅓ yards) for every half kilogram (=1.102 pounds).	....do	55.90	10 78⅓
	Measuring from 10,000 to 20,000 meters (=3,872⅔ yards) for every half kilogram (=1.102 pounds).	....do	61.10	11 79⅓

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			Francs.	
19	Cotton—Continued.			
	Thread—Continued.			
	Twisted and dyed, measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	100 kilos ..	66.30	$12 79⅛
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	74.10	14 30 1/10
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	83.20	16 05 7/10
	Measuring from 50,000 to 60,000 meters (=13.416⅛ yards) for every half kilogram (=1.102 pounds).	....do	94.90	18 31⅛
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	110.50	21 32⅛
	(In twisted thread the classification is made by multiplying the whole length by the number of threads.)			
	Warps—			
	Single and unbleached, not measuring more than 10,000 meters) =1.936⅛ yards) for every half kilogram (=1.102 pounds).	....do	20.70	3 99⅛
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilogram (=1.102 pounds).	....do	25.30	4 88⅛
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do	29.90	5 23
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	36.80	7 20⅛
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	44.85	8 65⅛
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds.).	....do	55.20	10 07⅛
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	69.00	13 32
	Single and bleached, measuring not more than 10,000 meters (=1.936⅛ yards) for every half kilogram (=1.102 pounds).	....do	24.84	4 79⅛
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilo gram (=1.102 pounds).	....do	30.36	5 85
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do.	35.88	6 92⅛
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilo gram (=1.102 pounds).	....do	44.16	8 52⅛
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	53.82	10 38⅛
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	66.24	12 60⅛
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	82.80	15 98
	Single and dyed, measuring not more than10,000 meters (=1.936⅛ yards) for every half kilogram (=1.102 pounds).	....do	49.45	9 50 3/10
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilogram (=1.102 pounds).	....do	54.05	10 43⅛
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do	58.65	11 30
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	65.55	12 65 1/10
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	73.60	13 20⅛
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	83.95	16 20⅛
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	97.75	18 86⅛
	Twisted and unbleached, not measuring over 10,000 meters (=1.936⅛ yards) for every half kilogram (=1.102 pounds).	....do	26.91	5 19 3/10
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilogram (=1.102 pounds).	....do	32.89	6 34 7/10
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do	38.87	7 50 1/10
	Measuring from 30,000 to 40,000 meters(=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	47.84	9 23 7/10
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	58.30	11 25 1/10
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	71.76	13 84 3/10
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	89.70	17 31⅛

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates. Unit.	Tariff rates. Duty.	Equivalent in United States money.
19	Cotton—Continued.			
	Warps—Continued.		*Francs.*	
	Twisted and bleached, measuring not more than 10,000 meters (=1.936⅛ yards) for every half kilogram (=1.102 pounds).	100 kilos ..	82.29	$6 23.1/10
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilogram (=1.102 pounds).	....do	39.47	7 61.5/10
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do	46.24	8 92⅛
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	57.41	11 08
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	....do	69.97	13 50
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	86.11	16 61.6/10
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	107.64	20 77⅛
	Twisted and dyed, measuring more than 10,000 meters (=1.936⅛ yards) for every half kilogram (=1.102 pounds).	....do	64.28	12 40⅛
	Measuring from 10,000 to 20,000 meters (=3.872⅛ yards) for every half kilogram (=1.102 pounds).	....do	70.26	13 56
	Measuring from 20,000 to 30,000 meters (=5.808⅛ yards) for every half kilogram (=1.102 pounds).	....do	76.24	14 71⅛
	Measuring from 30,000 to 40,000 meters (=7.744⅛ yards) for every half kilogram (=1.102 pounds).	....do	85.21	16 45.6/10
	Measuring from 40,000 to 50,000 meters (=9.680⅛ yards) for every half kilogram (=1.102 pounds).	... do	95.68	18 46⅛
	Measuring from 50,000 to 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	109.13	21 06
	Measuring more than 60,000 meters (=11.616⅛ yards) for every half kilogram (=1.102 pounds).	....do	127.07	24 53⅛
	Tissues—			
	Unbleached, weighing 13 kilograms (=28.652 pounds) or more to every 100 square meters (=119.59 square yards) and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	....do	57.00	10 99
	More than 27 elementary threads	....do	64.00	12 34
	Unbleached, weighing 7 kilograms (=15.428 pounds) or more, and less than 13 kilograms (=28.652 pounds) to every 100 square meters (=119.59 square yards and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	....do	66.00	12 74
	More than 27 elementary threads	....do	75.00	14 47
	Unbleached, weighing less than 7 kilograms (=15.428 pounds)—			
	27 or less elementary threads	....do	80.00	15 44
	More than 27 elementary threads	....do	100.00	19 30
	Bleached, weighing 13 kilograms (=28.652 pounds) or more, to every 100 square meters (=119.59 square yards) and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	....do	68.40	13 20.1/10
	More than 27 elementary threads	....do	76.80	15 02⅛
	Bleached, weighing 7 kilograms (=15.428 pounds) or more, but less than 13 kilograms (=28.652 pounds)—			
	27 or less elementary threads	....do	79.20	15 28⅛
	More than 27 elementary threads	....do	90.00	17 37
	Bleached, weighing less than 7 kilograms (=15.428 pounds).			
	27 or less elementary threads	....do	96.00	18 53
	More than 27 elementary threads	....do	120.00	23 16
	(Unbleached tissues having a mixture of bleached are classed and taxed as bleached.)			
	Colored, weighing 13 kilograms (=28.652 pounds) or more to every 100 square meters (=119.59 square yards) and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	....do	92.00	17 76
	More than 27 elementary threads	....do	99.00	19 11
	Colored, weighing 7 kilograms (=15.428 pounds) or more, and less than 13 kilograms (=28.652 pounds) to every 100 square meters, and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	....do	101.00	20 49.3/10
	More than 27 elementary threads	....do	110.00	21 23

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates. Unit.	Tariff rates. Duty.	Equivalent in United States money.
19	Cotton—Continued.			
	Tissues—Continued.			
	Colored, weighing less than 7 kilograms (=15.428 pounds)—		*Francs.*	
	27 or less elementary threads	100 kilos	115.00	$22 19½
	More than 27 elementary threads	do	135.00	26 06
	Printed, weighing 13 kilograms or more (=28.752 pounds) to every 100 square meters (=119.59 square yards), and having in a square of 5 millimeters of warp and woof—			
	27 or less elementary threads	do	138.40	26 71½
	More than 27 elementary threads	do	146.80	28 33½
	Printed, weighing 7 kilograms (=15.428 pounds) or more, and less than 13 kilograms (=28.652 pounds)—			
	27 or less elementary threads	do	149.20	28 79½
	More than 27 elementary threads	do	160.00	30 88
	Printed, weighing less than 7 kilograms (=15.428 pounds)—			
	27 or less elementary threads	do	166.00	32 04
	More than 27 elementary threads	do	190.00	36 67
	Embroidered in chain stitch	do	300.00	57 90
	Embroidered in double stitch (punta passato)	do	400.00	77 20
	Oiled—			
	For floors and tarred tissues	do	25.00	4 83
	All others	do	50.00	9 66
	Tulle—			
	Gauze and muslin—			
	Unbleached	do	250.00	48 26
	Bleached or dyed	do	300.00	57 90
	Embroidered	do	500.00	96 50
	Buttons, knitted goods, brushes and coverlids	do	100.00	19 30
	Galloons and ribbons	do	90.00	17 37
	Laces	do	300.00	57 90
	Velvets—			
	Unbleached	do	120.00	23 16
	Bleached	do	140.00	27 02
	Dyed	do	155.00	29 91
	Articles sewed. In addition to the tax on textile fabrics of the highest class into which they can be admitted, sewed articles are taxed 10 per cent.			
	Gun cotton, classed with gunpowder.			
	Cotton oil, classed with oils.			
20	Earthen, stone, and china ware:			
	Manufactures of common clay—			
	Tiles for floors, glazed or polished	do	1.10	22½
	Crucibles, jars, stone and other pottery unglazed or covered with one metallic coat of brown, yellow, green, or red.	do	1.50	28½
	Majolica work—			
	Common or of colored paste, with opaque varnish	do	8.00	1 54½
	Fine, or of white paste	do	12.00	2 31½
	Gilded or decorated	do	32.00	6 17
	Porcelaine work—			
	White	do	12.00	2 31½
	Gilded or decorated	do	32.00	6 17
	Marble or alabaster vases	do	.75	14½
	(Tiles for flooring, unglazed, are classed and taxed as bricks.)			
21	Fertilizers		Free	
22	Fish:			
	Fresh	*	Free	
	Dried or smoked	100 kilos	5.00	96½
	Preserved in salt	do	6.00	1 15½
	Preserved in oil	do	10.00	1 93
	Preserved in boxes	do	10.00	1 93
	(Sardines, anchovies and the like, preserved in salt, are admitted free when imported from the most favored nations.)			
23	Flax, hemp, and jute:			
	Raw		Free	
	Carded		Free	
	Cordage and cables	100 kilos	3.00	57½
	Nets	do	4.00	77½
	Threads—			
	Untwisted, of raw hemp or flax, washed or bleached	do	11.50	2 21½
	Jute, raw	do	10.00	1 93
	Jute, washed or bleached	do	11.50	2 21½
	Untwisted and dyed	do	17.10	3 30
	Untwisted and raw, washed or whitened	do	23.10	4 45½
	Twisted and dyed	do	34.65	6 66½

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
23	Flax, hemp, and jute—Continued.			
	Tissues—		*Francs.*	
	Raw jute	100 kilos	20.00	$3 86
	(The smallest tax which can be paid on jute is 20 lire = $3.86.)			
	Jute of any other sort classed as tissues of flax and hemp and taxed according to quality.			
	Flax and hemp united, not having more than 5 threads on the warp in a space of 5 millimeters—			
	Raw or bleached, excluding packing cloth	do	23.10	4 45½
	Packing cloth, belts, and tubes	do	12.00	2 31½
	Dyed or made with dyed threads	do	38.00	7 33
	(Tissues, raw or bleached, with a few narrow colored lines, intended for hospitals and other charitable purposes, for military uses, or for packing purposes, are classed and taxed as tissues raw or bleached.)			
	Flax and hemp united, having more than 5 threads in warp in the space of 5 millimeters—			
	Raw, bleached, or mixed with white	do	57.75	11 14½
	Dyed or made with dyed thread	do	90.00	17 37
	Flax or hemp, printed	do	115.00	22 19½
	(For the worked or damasked tissues, the duty is paid according as they are raw, bleached, dyed, or printed, and according to the number of threads. Where the threads cannot be counted the articles are classed and taxed as knitted goods.)			
	Flax or hemp, embroidered	do	250.00	48 26
	Flax or hemp oil-cloths—			
	For floors	do	20.00	3 86
	All others	do	40.00	7 72
	Trimming of flax or hemp and knitted goods	do	110.00	21 23
	Buttons and ribbons of flax or hemp	do	100.00	19 30
	Laces and tulles	Kilo	30.00	5 79
	Sewed articles, classed and taxed with the tissues of which they are composed, together with 10 per cent. additional.			
	Flax, hemp, and jute seed, classed and taxed with seeds.			
	Flaxseed oil, classed and taxed with oils.			
	Hempseed oil, classed and taxed with oils.			
24	Fruits:			
	Oranges and lemons	100 kilos	2.00	38½
	Citrons and limes		Free	
	Dates		Free	
	Dried figs	100 kilos	10.00	1 93
	Dried grapes	do	10.00	1 93
	Almonds, shelled		Free	
	Almonds, unshelled		Free	
	Small nuts		Free	
	Oily nuts, not otherwise named		Free	
	All other dried fruits	100 kilos	2.00	38½
	Fresh fruits, including grapes		Free	
	Fruits preserved in vinegar, salt, or oil	100 kilos	8.00	1 54½
	Fruits preserved in alcohol	do	40.00	7 72
	Pistachio nuts	do	8.00	1 54½
	Mushrooms and truffles	do	10.00	1 93
25	Furs:			
	Skins—			
	Raw, fresh, or dried, with hair, and suitable for use by furriers.		Free	
	Fine, tanned, with the hair	100 kilos	60.00	11 58
	Common, tanned with the hair	do	30.00	5 79
	Muffs of fur—			
	Fine	100	600.00	115 80
	Common	do	300.00	57 90
	Furrier articles not elsewhere named—			
	Fine fur	100 kilos	600.00	115 80
	Common fur	do	300.00	57 90
26	Glass:			
	Plates of glass, unpolished, except common window glass—			
	Less than 4 millimeters of thickness	do	3.75	69½
	4 millimeters or more of thickness	do	8.00	1 54½
	Common window glass, unpolished	do	8.00	1 54½
	Mirrors	do	35.00	6 76
	Glass manufactures—			
	Blown or molded, and neither colored, ground, nor engraved.	do	7.00	1 35 1/10

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
26	Glass—Continued.			
	Glass manufactures—Continued.		*Francs.*	
	Colored or ground, painted, enameled, gilded, or silvered.	100 kilos..	11.00	$2 12
	Vases and tubes with marks to indicate divisions and degrees cut in the glass are classed and taxed as as "instruments," optical or otherwise.			
	Common bottles	100.....	3.00	57.9/19
	Demijohns	100 kilos..	3.00	57.9/19
	Broken glass		Free	
	Crystals or enameled, of all sorts, cut as gems or for chandeliers and the like.	100 kilos..	30.00	5 79
	Vitrifications: Glass buttons (classed as merchandise)	....do.....	60.00	11 58
27	Glucose:			
	Liquid	....do.....	20.00	3 86
	Solid	....do.....	53.00	10 22
28	Glue:			
	Fish glue	....do.....	10.00	1 93
	Marine glue	....do.....	1.00	19.3/19
	Other glue	....do.....	4.00	77.1/2
29	Gunpowder, classed and taxed as chemical products. (See Chemicals.)			
30	Hair:			
	Raw or dyed		Free	
	Twisted cords and rough articles of hair	100 kilos..	8.00	1 54.1/2
	Hair mattresses	....do.....	15.00	2 89.1/2
	Hair cloth—			
	For sieves	....do.....	30.00	5 79
	All other	....do.....	165.00	31 75
	Human hair—			
	Worked	....do.....	3.00	57.9/19
	Not worked	....do.....	10.00	1 93
31	Hay		Free	
32	Hides and skins:			
	Hides—			
	Green or dry, not suitable for furriery		Free	
	Green or dry, suitable for furriery		Free	
	Tanned, with hair—			
	Fine	100 kilos..	60.00	11 58
	Common	....do.....	30 00	5 79
	Fine hides tanned with hair include the following: Chinchilla, ermine, polecat, lynx, otter, Canada marmot, marten, suasso, muskrat, gray miniver, fox (except the common fox), sable.			
	Common hides tanned with hair include all not mentioned in the foregoing list.			
33	Honey	....do.....	5.00	96.1/2
	Sweetmeats made of honey	....do.....	70.00	13 51
34	Hops:			
	Flowers		Free	
	Vines for transplanting		Free	
	Dry roots	100 kilos..	2.00	38.1/2
	Extract of	....do.....	10.00	1 93
35	Ice			
36	India-rubber manufactures:			
	Crude rubber		Free	
	Worked in braid, ribbons, and elastic tissues	100 kilos..	115.50	22 29.1/19
	Other manufactures, including clothing and shoes	....do.....	32.00	6 17
	(The minister of finance has the right to permit Italian manufacturers of rubber to introduce, free of duty, and up to the value of 100,000 lire (=$19,300), those special textures which are used exclusively in their manufactures.)			
	Rubber dissolved in flaxseed oil is classed and taxed as varnish.			
37	Iron and steel:			
	Iron ore		Free	
	Scrap-iron and steel		Free	
	Cast iron—			
	Pig		Free	
	Worked in rough castings	100 kilos..	4.00	77.1/2
	Worked in smooth castings, turned, enameled, tinned, or ornamented with other metals.	....do.....	5.00	96.1/2
	Iron in masses not yet freed of dross, and also steel in ingots.	....do.....	2.00	38.1/2
	Iron and steel not tempered (meaning iron and steel simply rolled or hammered)—			
	(a) Bars of all sizes and rods of not more than 5 millimeters in diameter.	....do.....	4.62	89.1/19

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			Francs.	
27	Iron and steel—Continued.			
	Iron and steel not tempered (meaning iron and steel simply rolled or hammered)—Continued.			
	(b) Rods and wire of 5 millimeters and less in diameter.	100 kilos ..	8.00	$1 54⅔
	(c) Plates of 4 millimeters and over in thickness	....do	4.62	.....
	(d) Plates of less than 4 millimeters in thickness and also pipes.	....do	8.00	1 54⅔
	(In divisions c and d are included plates of over 20 centimeters in width, and also those of less width, provided they are 3 meters in length. Plates not of either of those dimensions are classed and taxed in divisions a or b according to thickness.)			
	Iron and steel forged into anchors, axles, anvils, and other coarse work, including cannon.	....do	7.00	1 35$\frac{1}{10}$
	Iron or steel rails	....do	3.60	67$\frac{8}{10}$
	(Those only are admitted which are of the pattern adopted by the Italian railways.)			
	Iron of second fabrication (meaning iron subjected to other manufacturing operations than those of simple rolling or hammering)—			
	Plain	....do	11.80	2 27$\frac{7}{10}$
	Ornamented with other metals	....do	14.00	2 70
	Tinned iron, or sheets of iron covered with tin, zinc, or lead—			
	Not worked	....do	10.75	2 07⅔
	Worked and also ornamented with other metals	... do	16.00	3 08⅔
	Steel—			
	Tempered in bars, rods, plates, and wire	....do	10.00	1 93
	Springs	....do	15.00	2 89⅓
	Otherwise wrought	....do	25 00	4 83
	Knives for the arts and trades, and knives with plain wooden handles.	....do	16 00	3 08⅔
	Tools and instruments for the arts and trades, and for agriculture, of iron or steel, or both—			
	Scythes and sickles	....do	10.00	1 93
	All others	....do	12.00	2 31⅔
	Iron manufactures—			
	Polished, whether ornamented or not with other common metals.	....do	60.00	11 58
	Gilded, silvered, or covered in part or in whole with silver.	....do	100.00	19 30
	Galvanized, enameled, coppered, tinned, smoothed, or varnished, but not polished, classed and taxed with iron of second fabrication.			
	Cannon—			
	Iron or steel	....do	7.00	1 35$\frac{1}{10}$
	Cast iron—			
	Rough cast	....do	4.00	77⅓
	Finished	....do	5.00	96⅔
	Guns	100	600.00	115 80
	Parts of guns	100 kilos ..	200.00	38 60
	Pistols	100	350.00	67 56
	Parts of pistols	100 kilos..	700.00	135 10
	Swords and sabers (mounted)	100	200.00	38 60
	Steam engines, with or without boilers and hydraulic motors.	100 kilos..	6.00	1 15⅔
	Locomotives, with or without boilers; also marine engines, with or without boilers.	....do	8.00	1 54⅔
	Boilers	....do	8.00	1 54⅔
28	Jewelry:			
	Rubies, emeralds, diamonds, &c	Hecto	14.00	2 70
	Agates, opals, onyx, &c	Kilo	9.00	1 73$\frac{7}{10}$
	Imitation stones	100 kilos..	30.00	5 79
	Gold jewelry	Hecto	7.00	1 35$\frac{1}{10}$
	Silver and gilt and platina jewelry	Kilo	10.00	1 93
	Jewelry of all other metals	100 kilos..	100.00	19 30
29	Lamps:			
	For electric lights	....do	30.00	5 79
	Plain glass or crystal	....do	7.00	1 35$\frac{1}{10}$
	Colored glass or crystal	....do	11.00	2 12
	Gold	Hecto	14.00	2 70
	Silver or gilt	Kilo	5.00	96⅔
	(All other materials classed and taxed according to the metal of which they are chiefly made, or as merchandise, fine or common. Fine merchandise pays 100 lire ($19.30), and common merchandise pays 60 lire ($11.58) per quintal of 220.464 pounds.)			

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			Francs.	
39	Lamps—Continued.			
	Caral lamps, or oil lamps with regulators or other mechanism—			
	Fine	100 kilos	100.00	$19 30
	Common	do	60.00	11 58
40	Lead:			
	Ore, whether argentiferous or not		Free	
	Lead and its alloys with antimony—			
	Pigs	100 kilos	.50	09.65/100
	Rolled, in sheets or pipes	do	3.00	57 9/10
	Type	do	5.00	96 1/2
	Other manufactures, including shot and bullets	do	5.00	96 1/2
	White lead	do	5.00	96 1/2
	Chromate of lead	do	12.00	2 31 1/2
	Sulphate of lead (galena)		Free	
	Oxide of lead	100 kilos	2.00	38 1/2
	Nitrate of lead	do	4.00	77 1/2
	Red lead of Siberia	do	12.00	2 31 1/2
	(For other compounds of lead, see Chemical substances.)			
41	Leather:			
	Hides, tanned, unhaired, and not finished	do	25.00	4 83
	Morocco leather	do	75.00	14 47
	Patent leather	do	75.00	14 47
	Hides, tanned, without hair and finished for sole leather	do	45.00	8 67
	Hides, tanned, without hair and finished for other purposes	do	50.00	9 66
	Kid, goat, or lamb skins, tanned	do	20.00	3 86
	(Leather cut in boot legs, uppers, soles, girdles, hat trimmings, &c., classed and taxed as the respective leather of which they are composed.)			
	Leather scraps		Free	
	Harness, plain	100 kilos	60.00	11 58
	Harness, ornamented	do	90.00	17 37
	Saddles	100	900.00	173 70
	Saddles, not elsewhere mentioned	100 kilos	60.00	11 58
	Leather gloves of all kinds (also cut, but not sewed)	100 pairs	7.50	1 44 1/2
	Boots, half-boots, and gaiters	do	110.00	21 23
	All other foot covering	do	70.00	13 51
	Leather trunks and valises	Each	2.00	38 1/2
	Belting and bands, finished and sewed for machinery	100 kilos	75.00	14 47
	Other leather goods not elsewhere named	do	50.00	9.66
42	Lime and cement:			
	Lime and plaster of paris		Free	
	Cements	100 kilos	.50	09.65/100
	(For other compounds of lime, see Chemial subetances and Fertilizers.)			
43	Malt liquors:			
	In wood	Hecto	2.00	38 1/2
	In bottles	100	2.00	38 1/2
44	Medical instruments	100 kilos	30.00	5 79
45	Naval stores:			
	Rosin, indigenous, raw	do	1.00	19 3/10
	All other		Free	
	Tar	100 kilos	1.00	19 3/10
	Turpentine, indigenous, raw	do	1.00	19 3/10
	Other turpentine		Free	
	Oil of turpentine		Free	
	Spirits of turpentine		Free	
46	Oil cake and meal			
47	Oils:			
	Animal oils—			
	Whale oil	100 kilos	6.00	1 15 1/2
	Other fish oil, unrefined	do	6.00	1 15 1/2
	Fish oil, refined	do	10.00	1 93
	Fish oil, prepared or compounded	do	120.00	23 16
	Oil of beeswax	do	120.00	23 16
	Horn oil		Free	
	Oil of bone marrow		Free	
	Bear's oil		Free	
	Neats-foot oil		Free	
	Oil of tallow or suet		Free	
	Mineral oils—			
	Petroleum, crude	100 kilos	27.00	5 21
	Petroleum, refined	do	33.00	6 37
	(If petroleum is offered at the custom-house in tin cases unboxed, or in demijohns, bottles, or the like, it is taxed 29 lire ($5.59) if crude, and 36 lire ($6.94) if refined).			
	Crude, other than petroleum	do	27.00	5 21

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
47	Oils—Continued.			
	Mineral oils—Continued.		*Francs.*	
	Refined, other than petroleum	100 kilos	33.00	$6 37
	Heavy oils, from the distillation of mineral oils, resins, and pitch.	....do	6.00	1 15½
	Vegetable oils—			
	Olive oil	....do	3.00	57.9/10
	Other fixed vegetable oils	....do	6.00	1 15½
	Volatile vegetable oils—			
	Oil of rose	Kilo	45.00	8 67
	All other	....do	1.50	28.94/100
	(The duty on volatile oils and essences is paid without any deduction for the weight of the vessels containing them.)			
	Palm oil	100 kilos	1.00	19.3/10
	Cocoanut oil	....do	1.00	19.3/10
	Oil of turpentine		Free	
	Oil for varnishes	100 kilos	12.00	2 31½
	Oil of sap	....do	4.00	77½
	Oil of sweet almond	....do	10.00	1 93
	Oil of cashew nut	....do	10.00	1 93
	Castor oil	....do	10.00	1 93
	Croton oil	....do	10.00	1 93
	Oil of seeds	....do	10.00	1 93
	Oil of mustard-seed	....do	10.00	1 93
	Oil of yellow amber	....do	4.00	77½
	Oils compounded as perfumery with alcohol	....do	37.50	7 23½
	Oils compounded as perfumery without alcohol	....do	12.00	2 31½
48	Paraffine and wax:			
	Paraffine (classed as stearic acid)	....do	8.00	1 54½
	Paraffine candles (classed as candles)	....do	15.00	2 89½
	Wax—			
	Yellow, not manufactured	....do	15.00	2 89½
	Yellow, manufactured	....do	20.00	3 86
	White, not manufactured	....do	30.00	5 79
	White, manufactured	....do	40.00	7 72
	Residuum of	....do	10.00	1 93
	Waxen anatomical preparations		Free	
	Shoemaker's wax		Free	
	Sealing wax	100 kilos	30.00	5 79
	Wax candles. (See Candles.)			
49	Paints:			
	Derived from bituminous substances—			
	Dry	....do	15.00	2 89½
	In paste or liquid	....do	10.00	1 93
	Coloring extracts from wood and all other dyestuffs	....do	12.50	2 41½
	Colors in cakes, in powder, or of any other sort	....do	12.00	2 31½
	Varnishes—			
	Containing alcohol	....do	30.00	5 79
	All other sorts	....do	12.00	2 31½
	(Colors contained in wooden paint boxes are classed as merchandise and taxed 60 lire ($11.58) per quintal of 220.464 pounds.)			
	Woods, roots, leaves, flowers, herbs, &c., for dyeing—			
	Ground		Free	
	Not ground	100 kilos	2 00	38½
50	Paper:			
	White and colored, in pulp	....do	10 00	1 93
	Colored, gilded, or figured, including wall paper	....do	20 00	3 86
	Filtering or blotting		Free	
	Thick wrapping paper		Free	
	Thin wrapping paper	100 kilos	10.00	1 93
	Letter paper, with initials or designs of any kind	....do	50.00	9 66
	Sand paper of all sorts, including emery and glass paper		Free	
	Insecticide paper	100 kilos	4.00	77½
	Chemical test paper	....do	4.00	77½
	Paper in scraps or shreds		Free	
	Diaphanous paper made of gelatinous substances	100 kilos	60.00	11 58
	Paper in imitation of ivory	....do	60.00	11 58
	Paper printed in designs for embroidery, &c	....do	50.00	9 66
	Cigarette paper in small books	....do	60.00	11 58
	Other cigarette paper	....do	10.00	1 93
	Music paper	....do	10.00	1 93
	Paper for medical purposes	....do	120.00	23 16
	Playing cards	100 packs	20.00	3 86
	Playing cards, very small, and intended for children's toys—			
	Fine	....do	100.00	19 30
	Common	....do	60.00	11 58
	Visiting cards	....do	60.00	11 58

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			France.	
50	Paper—Continued.			
	Visiting cards with photographs	100 packs.	50.00	$9 66
	Manuscripts	.....	Free	.....
	Cornucopias, white, colored, gilded, &c., to hold confectionery or medicines—			
	Fine	100 kilos.	100.00	19.30
	Common	....do	60.00	11 58
	Impermeable paper	.....	Free	.....
	Pasteboard—			
	Fine	220.464 lbs.	8.00	1 54⅔
	Common	.....	Free	.....
	Imitating slate	.....	Free	.....
	Imitating ivory	220.464 lbs.	60.00	11 58
	Impermeable	....do	8.00	1 54⅔
	Tarred and mixed with pulverized mineral for roofing	.....	Free	.....
	Boxes—			
	Fine	220.464 lbs.	100.00	19 30
	Common	....do	60.00	11 58
	Diaphanous pasteboard made of gelatinous substances	....do	60.00	11 58
	Pasteboard manufactures—			
	Fine	....do	100.00	19 30
	Common	....do	60.00	11 58
	Paper manufactures—			
	Fine	....do	100.00	19 30
	Common	....do	60.00	11 58
51	Plated ware:			
	Plated with silver	....do	100 lire	19 30
	Silver plated with gold	....do	5.00	96½
52	Provisions:			
	Meats, fresh (including poultry)	....do	5.00	96½
	Cooked	....do	5.00	96½
	Meats, salted, smoked or otherwise prepared	....do	20.00	3 86
	Game	....do	15.00	2 89½
	Extract of meat	....do	40.00	7 72
	Intestines—			
	Fresh	.....	Free	.....
	Salted	220.464 lbs.	4.00	77⅓
	Oleomargarine—			
	Fresh	....do	5.00	96½
	Salted	....do	15.00	2 89½
	Lard	....do	1.00	19 3/10
	Butter—			
	Fresh	....do	5.00	96½
	Salted	...do	15.00	2 89½
	Cheese	... do	8.00	1 54⅔
53	Quicksilver	....do	10.00	1 93
	Oxide of	....do	4.00	77⅓
	Muriate and chloride of	....do	4.00	77⅓
	Precipitate of	....do	4.00	77⅓
	Calomel	....do	120.00	23 16
	Cinnabar (mercurial ore)	.....	Free	.....
	Vermilion	220.464 lbs.	25.00	4 83
54	Seeds:			
	Abro, balesur, and panacocco—			
	Pierced	....do	60.00	11 58
	Unpierced	.....	Free	.....
	(Cereals, classed, and taxed as their respective grains.)			
	For medicinal purposes	100 kilos.	10.00	1 93
	Vegetable	....do	11.50	2 21 59/100
	Indian corn	....do	11.50	2 21 59/100
	Millet	....do	11.50	2 21 59/100
	Orobo	....do	11.50	2 21 59/100
	Buckwheat	....do	11.50	2 21 59/100
	All others	.....	Free	.....
55	Soap:			
	Soft soap, dark	100 kilos.	6.00	1 15½
	All other soft soap, dark	....do	12.00	2 31⅓
	Common soap	....do	6.00	1 15½
	Transparent soap	... do	12.00	2 31⅓
	Perfumed	....do	12.00	2 31⅓
	Fine soap, unperfumed but like perfumed in form	....do	12.00	2 31⅓
	Soap for dental purposes	....do	12.00	2 31⅓
	Medicinal soap	....do	120.00	23 16
56	Spirits:			
	Wine in wood, pure	Hecto	12.00	2 31⅓
	Wine in wood, sweetened or aromatized, including rum, brandy, &c.	....do	25.00	4 83
	(The weight of the cask is not deducted in taxing spirits in wood.)			

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
56	Spirits—Continued.		*Francs.*	
	Wine of all sorts in bottles holding more than a half but not over a liter.	100	25.00	$4 83
	Wine of all sorts in bottles of half a liter or less	do	18.00	3 47
	Ether or chloroform	100 kilos	4.00	77⅓
	(Every kilogram of ether or chloroform pays also a tax equivalent to that paid on two liters of spirits.)			
	Wine—			
	In wood	Hecto	4.00	77⅓
	In bottles	do	4.00	77⅓
	(Bottles containing a half liter or less are classed as containing half a liter; those containing more than a liter and less than two liters are classed as containing two liters.)			
	Vinegar—			
	In wood	do	10.00	1 93
	In bottles	100	25.00	4 83
57	Starch	100 kilos	8.00	57.9⅙
	Pulverized, for toilet use	do	12.00	2 31⅓
58	Sugar:			
	First class	do	66.25	12 78⅔
	(All sugars belong to the first class that are purer than sample No. 20 Holland.)			
	Second class	do	53.00	10 22
	Sweetmeats and confectionery made with sugar	do	70.00	13 51
	Molasses, unrefined, intended for shoemakers' wax or like uses pay 1 lire per 100 kilograms (=220.464 pounds). The Government has the right to admit, free of duty, molasses intended for distillation.			
59	Tin:			
	Ore		Free	
	In pigs, rods, or scraps	100 kilos	4.00	77⅓
	In sheets	do	15.00	2 89⅔
	All other	do	20.00	3 86
	(Tinned iron is classed and taxed as iron.)			
60	Tobacco:			
	In leaf or fiber (prohibited).			
	Havana cigars	Kilo	30.00	5 79
	(All cigars made of leaf from Cuba, Porto Rico of Varinas, Colombia, Java, Manila, or of like quality, are classed and taxed as Havana cigars.)			
	Manufactured tobacco of all other qualities including cigarettes.	do	20.00	3 86
61	Vegetables:			
	Fresh		Free	
	Dried	Ton	11.50	2 21.⅙
	Ground, as substitutes for coffee	100 kilos	5.00	96⅓
	Preserved in boxes and other receptacles	do	8.00	1 54⅓
62	Wood:			
	For fuel		Free	
	Charcoal of wood		Free	
	For cabinet-makers, unsawed	100 kilos	2.00	38⅔
	For cabinet-makers, sawed	do	4.00	77⅓
	In boards or squares inlaid for floors	do	4.00	77⅓
	Common, rough, sawed, squared, or simply hewed or squared with the ax.		Free	
	In small boards for boxes sieves or the like; also in hoops of any length.		Free	
	Casks, new or old, with hoops of iron or wood	Hecto	0.20	3.86/100
	Woods classed under "wood for cabinet-makers, sawed," and "wood for cabinet-makers unsawed," include the following woods: Holly, aloe, anchra or angelico, aquiles. orange, araribe rosa (Ventrotabrum robustum), rosewood, white or new holland, bignonia, box, cayenne, calamander, coral, cumaroo, ebony, iron wood, passion flower, guaranna (Melanoxylon banna) jacoranda (Machærcum firmum), jatoba (Hymenea mirabilis), lemon, marbleized, mahogany, walnut, odoriferous, olea vermehlo, palesiandro, palm, panacco, parbridge, santa lucia, sissoo, yew, tombac, violet (Machærum violaceum), guiana violet.			
	Woods used for medical purposes	100 kilos	10.00	1 93
	Under this head are included the following woods: Cinnamon, nefritico, quassia, white sandal, saxafrax, serpentine, sclobalsamo.)			
	All other woods		Free	
	Wood pulp		Free	

Customs duties collected under the present tariff laws of Italy—Continued.

Number.	Tariff classification.	Tariff rates.		Equivalent in United States money.
		Unit.	Duty.	
			Francs.	
62	Wood—Continued.			
	Pertrified wood		Free	
	Woods for medicinal purposes	100 kilos	10.00	$1 93
	Wood for hoops of whatever length		Free	
	Furniture—			
	Common curved wood, not upholstered	100 kilos	7.50	1 44½
	Common wood, not upholstered	do	13.00	2 50$\frac{1}{10}$
	Common wood, upholstered	do	40.00	7 72
	Cabinet-makers' wood, veneered or inlaid; also, upholstered.	do	40.00	7 72
	Oars, stakes, and poles		Free	
	Roots, for brushes		Free	
	Cork wood, unmanufactured		Free	
	Cork wood, manufactured	100 kilos	15.00	2 89½
	Tools and various work of common wood, neither polished nor painted.		Free	
	All other	100 kilos	8.00	1 54½
	Wooden merchandise, including togs	do	40.00	7 72
	Ships, barks, and boats		Free	
	Canes, reeds, and rushes		Free	
	Basket work and mats—			
	Coarse		Free	
	Fine	100 kilos	22.00	4 24
	Braids of straw or other material of wood fiber		Free	
	Ropes of esparto, linden, and the like	100 kilos	1.50	28.94$\frac{1}{10}$
	Straw hats, except ladies' trimmed hats	do	3.00	57$\frac{1}{10}$
63	Wool:			
	Natural, washed, carded dyed, waste wool, and refuse wool	do	Free	
	Woolen yarn—			
	Untwisted, bleached, or unbleached	100 kilos	50.00	9 66
	Untwisted and dyed	do	75.00	14 47
	Twisted, bleached or unbleached	do	60.00	11 58
	Twisted and dyed	do	90.00	17 37
	Woolen textures—			
	(In textures composed in part of wool, the duty is levied on that material which dominates in weight. If, however, the threads of the warp are of cotton, the duty is smaller.)			
	Carded	do	140.00	27 02
	Carded, with warp entirely of cotton yarn	do	93.50	18 10½
	Combed	do	170.00	32 81
	Combed, with warp composed entirely of cotton yarn	do	130.00	25 09
	Embroidered	do	400.00	77 20
	Felt—			
	For hats	do	18.00	3 47
	Tarred, pressed for soles, &c	do	7.00	1 35$\frac{1}{10}$
	For clothing	do	60.00	11 58
	Woolen knitted goods and braids	do	200.00	38 60
	Ribbons and galloons	do	220.00	42 46
	Buttons	do	220.00	42 46
	Laces and tulles	do	300.00	57 90
	Covers made of waste strips of woolen cloth	do	60.00	11 58
	Carpets made of waste strips of woolen cloth	do	60.00	11 58
	Carpets	do	110.00	21 23
	Sewed woolen goods of different materials are classed and taxed according to the predominating material.			
64	Zinc:			
	Ore		Free	
	In pigs or scraps	100 kilos	1.00	19.4$\frac{1}{10}$
	Rolled or in sheets	do	4.00	77$\frac{1}{2}$
	In other work—ungilt	do	12.00	2 31$\frac{3}{4}$
	In other work—gilt	do	58.00	11 18
	Nails	do	4.00	77$\frac{1}{2}$
	Tacks	do	60.00	11 58
	Pipe	do	4.00	77$\frac{1}{2}$
	Oxide of zinc	do	2.00	38$\frac{3}{4}$

The full tariff of Italy was printed in consular Reports No. 26½, p. 526.

NORWAY.

The full tariff of Norway is printed in consular Reports No. 26½, p. 526.

PORTUGAL.

Customs duties collected under the present tariff laws of Portugal.

[Prepared by Minister E. P. C. Lewis.]

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
			Reis.	
1	Agricultural implements	Kilo	2	$0 00½
2	Animals:			
	Cattle	Each	340	36
	Hogs	do	110	11½
	Horses (p. b.)	do	2,300	2 48
	Mules (p. b.)	do	1,100	1 18
	Sheep and goats		Free	
	Donkeys	Each	570	61
	Leaches	1,000	100	10½
	Not specified		Free	
3	Art works:			
	Oil and water-color pictures, 5 per cent. ad valorem.			
	Plaster statues	Kilo	10	01½
	Marble statues, 1 per cent. ad valorem.			
	Articles for museums		Free	
4	Barks and extracts:			
	Cocoa shells	Kilo	20	02½
	Corkwood	do	4	00½
	Barks medicinal, 5 per cent. ad valorem.			
	Barks used in art and perfumery		Free	
	Barks used in dyeing		Free	
	Liquid extracts of barks		Free	
5	Blacking	Kilo	75	08
6	Bones, hoofs, horns, &c.:			
	Unmanufactured bones, hoofs, horns, &c		Free	
	Hoofs, manufactured	Kilo	1,500	1 62
	Buck and rhinoceros horns	do	75	08
	Bones, manufactured	do	3,000	3 24
	Elephants' and sea-horse teeth, unmanufactured	do	200	21½
	Elephants' and sea-horse teeth, worked	do	5,000	5 40
7	Books, maps, engravings, &c.:			
	Maps, engravings, lithographs, &c		Free	
	Books in foreign languages, unbound		Free	
	Books in foreign languages, bound or unbound		Free	
	Books by Portuguese authors resident abroad		Free	
	Books in Portuguese language printed abroad	Kilo	100	10½
	Books reprints abroad of Portuguese editions (can only be admitted in conformity with civil law)	do	100	10½
8	Brass and manufactures of, and analogous alloys:			
	Brass in fragments		Free	
	Brass, cast	Kilo	2	00½
	Brass unfinished vessels	do	25	02½
	Brass not specified	do	2½	00½
	Brass wire and sieves	do	50	5½
9	Breadstuffs:			
	Barley	do	8	00½
	Indian corn	do	9	01
	Oats	do	8	00½
	Rye	do	9	01
	Wheat	do	10	01 1/16
	Wheat flour	do	16	01 7/16
	Biscuits	do	75	08
11	Brooms and brushes:			
	Brushes for personal use	do	500	54
	Brushes for other purposes	do	20	02½
	Brooms	do	20	02½
12	Candles:			
	Wax	do	50	05½
	Spermaceti	do	50	05½
	Tallow	do	30	03½
	Paraffine	do	70	07½
13	Carriages of all descriptions, 25 per cent. ad valorem.			
14	Cars, for whatever system, 5 per cent. ad valorem.			

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
15	Chemicals:		*Reis.*	
	Bromine, iodine, phosphorus, arsenical acid, pyroligneous (marking in the areometer 6 degrees) caustic alkali, solid or dissolved azotic soda, carbonate of soda, natural soda, soda borate, chlorate of lime.	.....	Free	.....
	Sulphuric and chloric acid	Kilo	1	$0 00 1/5
	Palmitic acid, olegic, and stearic, in paste	....do	50	05
	Azotic or nitric acid	....do	20	02
	Saltpeter	....do	30	03
	Sulphates of soda, potash, copper, and iron	....do	2½	00 1/5
	Carbonate of potash	....do	5	00½
	Carbonate of potash, refined	....do	50	05
	Carbonate of soda, artificial	....do	10	01
	Carbonate of soda, refined, dry, and crystallized	....do	10	01
	Chlorate of sodium	Liter	8	00 1/5
	All other chemical products not specified, 5 per cent. ad valorem.			
16	Clocks and watches:			
	Watches in gold cases	Each	1,100	1 18
	Watches in other than gold cases	....do	600	64
	Parts of watches, movements included	....do	200	21
	Manufactures of parts of clocks	Kilo	200	21
	Clocks and manufactures for watches and clocks not specified, 20 per cent. ad valorem.			
17	Coal, &c.:			
	Coal	Ton	300	32
	Coke	....do	600	64
	All other combustible fossils and products, 5 per cent. ad valorem.			
18	Copper:			
	Ingots	.....	Free	.....
	Bar	.....	Free	.....
	Sheet	Kilo	2	00½
19	Cotton manufactures:			
	Batting	....do	200	21
	Thread, unbleached	....do	135	14
	Thread, bleached	....do	200	21
	Thread, dyed scarlet (p. b.)	....do	135	14
	Thread, dyed, not otherwise specified	....do	225	24
	Thread, stamped with more than one color (p. b.)	....do	135	14
	Thread, twist	....do	300	32
	Open textures, laces, and insertings	....do	1,500	1 62
	Open textures, barege	....do	600	64
	Open textures, tarlatan webbing, common tulle, crinoline, and similar textures (p. b.).	....do	150	16
	Fine veiling, bobbinet, tulle, and similar goods (p. b.)	....do	1,100	1 18
	Open textures, not specified, plain	....do	1,100	1 18
	Open textures, not specified, worked	....do	1,500	1 62
	Transparent textures, muslins, and cambric, unbleached.	....do	200	21
	Transparent textures, muslins, and cambric, white	....do	240	25½
	Transparent textures not specified	....do	700	75
	Close textures, plain, heavy canvas, not proper for sails, bleached or unbleached.	... do	100	10½
	Rough and coarse, unbleached or whitened	....do	70	07½
	Glazed, brown, or whitened	....do	150	16
	Cambric muslin, white	....do	275	29
	Textures not specified, unbleached	....do	125	13½
	Textures not specified, white	....do	150	16
	Textures napped in one color	....do	550	59½
	Textures napped in more than one color	....do	750	81
	Counterpanes and blankets	....do	550	59½
	Mole skins, dyed	....do	225	24
	Mole skins, white or stamped	.....	425	45
	Close textures	Kilo	550	59½
	Close textures, velveteens	....do	225	24
	Close textures, imitation velvets	....do	450	48
	Braids, twills, damasked or glazed, transparent or close, brown or white, except such as intended for print (p. b.).	....do	300	32
	Textures, twilled, dyed, or stamped (p. b.)	....do	500	54
	Twills for stamping	....do	200	21
	Counterpanes	....do	550	59½
	Tape	....do	450	48
	Handkerchiefs and shawls of whatever description (p. b.).	....do	600	64
	Carpets	....do	200	21
	Wicks	....do	500	54

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
19	Cotton manufactures—Continued.			
	Cravats and neckties in any shape, finished or not (p. b.), 10 per cent. to be added to respective duties.			
			Reis.	
	Ribbed textures (p. b.)	Kilo	1,000	$1 08
	Binding, bobbin work and galloon, including tares, excepting cartons, paper or wood (p. b.).	do	700	75
20	Earthen, stone, and china ware:			
	Earthenware, ordinary	do	20	2½
	Earthenware, fine	do	100	10¾
	Flint-ware, ordinary	do	2½	0¾
	Flint-ware, fine	do	75	8¼
	Porcelain (p. b.)	do	200	21
	Tiles	do	50	5¼
	Bricks	do	10	01 1/16
	Ceramic productions not specified	do	1	00 1/16
21	Fertilizers, natural or artificial		Free	
22	Fish, 6 per cent. ad valorem.			
	Sea or fresh water, 6 per cent. ad valorem.			
	Fresh-water fish, preserved in any way	Kilo	35	4
	Salt-water fish, preserved in any way	do	4½	00 1/16
	Prepared fish, not specified	do	33½	3¾
	Fish in oil, including tare	do	70	7½
	Shell-fish, fresh or preserved	do	2½	1/16
23	Flax, hemp, and jute, manufactures of	do	75	8¼
	White flax and other similar filaments not specified, rough.	do	4	00½
	Tow in the rough	do	2	3
	Hackled flax (p. b.)	do	20	2¼
	Linen and filaments, hackled	do	60	6¾
	Linen and hemp thread, brown or white	do	150	16
	Linen and hemp thread, dyed (p. b.)	do	200	21
	Linen and hemp thread, twist (p. b.)	do	300	32
	Jute thread or other similar filaments, bleached, unbleached, dyed, twisted, or not twisted (p. b.).	do	5	00½
	Lint		Free	
	Open textures, lace, insertings, tulles, bobbinets, and similar goods (p. b.)	Kilo	1,500	1 62
	Canvas for embroidery and the like (p. b.)	do	150	16
	Open textures, transparents not specified (p. b.)	do	1,500	1 62
	Close textures, hessians	do	70	7½
	Canvas not suitable for sails—			
	Bleached or unbleached	do	150	16
	Bleached or unbleached, dyed	do	250	27
	Hollands	do	250	27
	Heavy brown linen—			
	Unsuitable for sails	do	450	48
	Whitened	do	550	59¾
	Fustian	do	1,000	1 08
	Damasked	do	750	81
	Linen or tow packing canvas—			
	Unbleached	do	450	48
	Sun bleached	do	550	59¾
	Close textures, not specified	do	500	54
	Lace	do	500	54
	Carpets and rugs	do	200	21
	Handkerchiefs and shawls of whatever quality	do	500	54
	Cravats and neckties in whatever state, 10 per cent. to be added to duties, or respective duties for similar textures.			
	Knitted goods	do	1,000	1 08
	Passementerie, galloons, and lawns, including the tares, with the exception of cartons and wood.	do	700	75
24	Fruits:			
	Fresh fruits, European	do	10	01 1/16
	Fresh fruits, exotic	do	02½	00 1/16
	Dried fruits, European	do	30	03¼
	Dried fruits, exotic	do	15	01⅝
	Preserved in brandy	do	70	07½
	Preserved in oil or vinegar	do	35	04
25	Furs, undressed		Free	
26	Glass, manufactures of:			
	Glass and crystal in polished plates, 25 per cent. ad valorem.			
	Crystal or glass for jewelers	Kilo	50	05¼
	Crystal or glass, manufactured, not otherwise specified.	do	100	10¾
	Vessels of common glass	do	5	00 1/16
	Artificial stones	do	500	54

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
26	Glass, manufactures of—Continued.		*Rets.*	
	Broken glass		Free	
	Vitrified mass, 30 per cent. ad valorem.			
27	Glucose:			
	In liquid state	Kilo	70	$0 07½
	In solid masses and granulated	do	90	10
28	Glue	do	30	03½
29	Gunpowder:			
	Without cartridges including tares	do	200	21
	In cartridges, including the projectiles and tares	do	300	31½
30	Hair:			
	Unmanufactured		Free	
	Prepared (p. b.)	Kilo	200	21
	Manufactured	do	3,000	3 24
	Manes, unmanufactured or prepared	do	20	02½
	Hair mattresses, including accessories	do	100	10½
	Manes, manufactured not otherwise specified	do	200	21½
	Bristles	do	20	02½
31	Hay		Free	
32	Hides and skins:			
	Hides or skins, green or prepared, of cattle, included in class 2:			
	Green	Kilo	5	00½
	Dry	do	7½	00½
	For making hats		Free	
	Not specified, 20 per cent. ad valorem.			
33	Honey:			
	Without the wax	Kilo	40	04½
	In the comb, 5 per cent. ad valorem.			
34	Hops, 5 per cent. ad valorem.			
35	Ice		Free	
36	India-rubber and manufactures:			
	Crude, purified, and vulcanized		Free	
	In masses of any form or in sheets; in silk elastic tissue.	Kilo	1,500	1 62
	Elastics of other tissues	do	750	81
	Vessels and tubes		Free	
	Manufactures of, not specified	Kilo	25	02½
37	Iron and steel, manufactures of:			
	Mitraille		Free	
	Pig-iron (p. b.), 2 per cent. ad valorem.			
	Wrought and sheet, unmanufactured (p. b.), 2 per cent. ad valorem.			
	Iron, galvanized, or covered with zinc, lead, or any preparation.	Kilo	4	00½
	Wire (p. b.)	do	2	00½
	Open-work wire	do	50	05½
	Cast, wrought, and wire nails, even with brass heads (p. b.).	do	50	05½
	Cast tubes, 2 decimeters or less in diameter	do	10	01 1/10
	Cast tubes, from 2 to 4 decimeters	do	5	00½
	Cast tubes, more than 4 decimeters	do	2	00½
	Cast tubes, iron, not specified, painted (p. b.)	do	40	04½
	Cast tubes, iron, polished, varnished, enameled, or covered with tin, zinc, or copper (p. b.).	do	80	08½
	Cast tubes, iron, pieces weighing more than 100 kilograms (p. b.).	do	10	01 1/10
	Wrought or sheet iron—			
	Manufactured or painted only (p. b.)	do	100	10½
	Polished, enameled, covered with pewter, zinc, or copper (p. b.).	do	160	16½
	Wrought iron, manufactured—			
	Not specified, weighing more than 100 kilograms each (p. b.).	do	20	02½
	Chains, except for ships' use	do	10	01 1/10
	Laminated sheet iron, including all ornamentation	do	400	42
	Laminated wire	do	50	05½
	Steel—			
	Mitraille, unbroken steel		Free	
	Laminated or cast, not specified (p. b.), 2 per cent. ad valorem.			
	Laminated, for vehicle springs	Kilo	25	02½
	Wire	do	50	05½
	Cutlery with pearl, ivory, tortoise, or unicorn handles.	do	350	37½
	Cutlery with whalebone or other hard horny material for handles.	do	300	32½
	Cutlery, wood or metal handles, except gold or silver.	do	250	27
	Cutlery, handles inlaid with gold or silver	do	500	54

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
			Reis.	
37	Iron and steel, manufactures of—Continued.			
	Steel—Continued.			
	Sheath knives	Kilo	100	$0 10½
	Scissors	do	500	54
	Not specified	do	150	16
38	Jewelry:			
	Artificial stones and pearls	do	500	54
	Gold jewelry (p. b.)	do	20,000	21 60
	Silver jewelry (p. b.)	do	10,000	10 80
	Not of gold or silver	do	800	86
	Coral	do	200	21½
39	Lamps:			
	For chemical and laboratory purposes, glass or earthenware (p. b.).	do	1	00 1/10
	For chemical and laboratory purposes, in metal (p. b.)	do	20	02½
	Not otherwise specified (p. b.)	do	200	21½
40	Lead:			
	Pig lead or sheets (p. b.)		Free	
	Shot		Free	
	Shot in alloy with antimony (p. b.)		Free	
	All manufactures of lead (p. b.)	Kilo	50	05½
41	Leather and manufactures of:			
	Tanned with the bark called Brasilian	do	10	01 1/10
	Tanned soft with oak bark for lining	do	5	00½
	Kid and similar skins	do	750	81
	Rough parchment and in sheets		Free	
	Parchment not specified	Kilo	200	21½
	Morocco, colored, and imitations thereof, varnished (p. b.).	do	800	32½
	For ornamental purposes, with the attachments	do	6,000	6 48
	Gloves (p. b.)	do	100	10½
	Manufactures of, not specified, including metals and trimmings.	do	500	54
	Scraps and raspings (p. b.)		Free	
42	Lime and cement		Free	
43	Malt beer	Decaliter	680	73
44	Medical instruments:			
	Surgical instruments manufactured of gum elastic	Kilo	25	02½
	All others not specified, 20 per cent. ad valorem.			
45	Naval stores:			
	Tar		Free	
	Resin—			
	Pitch	Kilo	12½	13½
	Turpentine	do	5	00½
46	Oil cake and meal:			
	Linseed meal (no duty specified for oil cakes), 5 per cent. ad valorem.			
47	Oils:			
	Mineral—			
	Petroleum, crude or refined, and its residuum	do	50	
	All other combustible mineral oils, 5 per cent. ad valorem.			05½
	Vegetable—			
	Olive oil	Decaliter	700	75
	Almond oil	Kilo	100	10½
	Castor, purified	do	200	21½
	Linseed	do	40	04½
	Nutmeg	do	40	04½
	Cotton-seed	Decaliter	700	75
	Oils not specified	Kilo	70	07½
	Concrete		Free	
	Oil, volatile, of turpentine	Kilo	5	00½
	Volatile oils not specified	do	500	54
	Animal—			
	Whale	do	5	00½
	Fish oil, not specified	do	5	00½
	Cod-liver and analogous oils	do	10	01 1/10
	Fish fat	do	7½	00½
	Vegetable—			
	Amber, 5 per cent. ad valorem.			
	Oil of tar, 5 per cent. ad valorem.			
	Oil of lavender	do	500	54
48	Paraffine and wax:			
	Paraffine and its productions—			
	Not otherwise specified, 5 per cent. ad valorem.			
	Refined in candles or cakes	do	70	07½
	Wax—			
	Crude yellow	do	10	01 1/10
	White	do	80	08½
	Manufactured	do	50	05½

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
			Reis.	
48	Paraffine and wax—Continued.			
	Spermaceti—			
	Crude		Free	
	Purified	Kilo	15	$0 01.6
	Manufactured	do	50	05
49	Paints:			
	Colors in powders, 5 per cent. ad valorem.			
	Paints prepared in oil, 5 per cent. ad valorem.			
50	Paper, manufactures of:			
	Writing paper	do	100	10
	Stamped or painted	do	50	05
	Other sorts of paper (p. b.)	do	15	01.5
	Card-board and paste-board	do	7½	00
	Playing cards	do	100	10
	Pulp suitable for manufacture of paper		Free	
	Old paper, rags, &c.		Free	
51	Plated ware	Kilo	200	21
52	Provisions:			
	Beef, dry, with or without salt	do	20	02
	Meat not specified, in whatever form	do	75	08
	Oleomargarine	do	50	05
	Lard	do	50	05
	Butter	do	150	16
	Cheese, fine	do	175	18
	Cheese, common	do	100	10
53	Quicksilver (p. b.)		Free	
54	Seeds for cultivation		Free	
	Used for perfumery	Kilo	50	05
	Not specified, 20 per cent. ad valorem.			
	Cotton seed, clean, 25 per cent. ad valorem.			
	Oleaginous seeds		Free	
55	Soap	Kilo	50	05
	In small cakes	do	150	16
	Medicated, 5 per cent. ad valorem.			
56	Spirits:			
	Spirit and simple alcohol	Every deciliter of pure alcohol.	1,200	1 29
	Spirit and alcohol, prepared, in whatever vessels imported.	For each liquid deciliter.	1,200	1 29
	Gin	do	1,200	1 29
	Liqueurs and cognac (p. b.)	do	1,500	1 62
	Beverages not specified	do	1,100	1 18
57	Starch	Kilo	25	02
58	Sugar:			
	Refined	do	125	13
	Not refined	do	90	09
	Molasses	do	20	02
59	Tin plates	do	400	43
60	Tobacco:			
	In rolls	do	1,440	1 55
	Leaves, ground, and stalks	do	1,680	1 81
	Cigars	do	2,640	2 85
	Cigarettes, snuff, and all others manipulated, and cut stalks.	do	2,160	2 33
61	Vegetables:			
	Dried beans	do	8	00.8
	Dried, not specified	do	20	02
	Potatoes	do	5	00
	Green		Free	
	Garden stuff, green or dry		Free	
62	Wood:			
	In the rough (p. b.)		Free	
	Boards sawed—			
	Up to 2.75 centimeters thick	Meter	10	01.1
	From 2.75 centimeters to 5.50 centimeters	do	20	02
	From 5.50 centimeters to 8.25 centimeters	do	30	03
	All above 8.25 centimeters in thickness	do	40	4
	Veneers for cabinet-makers (p. b.)		Free	
	Veneers, not specified	Kilo	10	1.1
	Rafters and beams	Meter	20	2
	Timbers	do	100	10
	Shingles	do	20	2
	Poles	Each	40	4
	Staves, ½ per cent. ad valorem.			
	Masts, ½ per cent. ad valorem.			
	Hoops for casks, ½ per cent. ad valorem.			
	Firewood	Kilo	1	00.1

Customs duties collected under the present tariff laws of Portugal—Continued.

Number.	Tariff classification.	Unit.	Tariff rates of duty.	Equivalent in United States money.
			Reis.	
62	Wood—Continued.			
	Manufactured wood, wooden boxes for cigars made up or not (p. b.)	Kilo	25	$0 00⅝
	Moldings or frames for looking-glasses or pictures, cornices of curtains composed of wood or plaster ready for use (p. b.), 20 per cent. ad valorem.			
	Moldings, in separate pieces (p. b.)	do	80	00⅝
	Moldings not specified, 25 per cent. ad valorem.			
	Corkwood (p. b.)		Free	
	Unworked		Free	
	Worked	Kilo	30	00¼
	Sawdust		Free	
	Charcoal		Free	
63	Wool:			
	Washed or unwashed (p. b.)		Free	
	Dyed	Kilo	20	02½
64	Zinc:			
	Broken zinc		Free	
	Cast or laminated, unmanufactured (p. b.)		Free	
	Manufactured, rolled, stamped, or perforated, whether completed or not (p. b.).	Kilo	20	02½
	Manufactured zinc, not specified (p. b.)	do	50	05½
	In addition to the duties levied by the annexed tariff, there are imposed the following: On all importations not marked p. b., 2 per cent. on amount of duty. Upon that amount, 6 per cent., and a further sum upon the amount thus obtained of 3 per cent. Upon all importations marked p. b., an additional duty of $\frac{44}{100}$ of 1 per cent.			

ROUMANIA.

The full Tariff of Roumania was printed in Consular Reports No. 41, p. 519.

RUSSIA.

Russian tariff of imports.

[Prepared by Minister P. M. B. Young.]

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
			Rubles.		
1	Agricultural implements, machines without attachment of steam engines.	1 pood..	0.50	36 lbs...	$0 25
	NOTE.—Extra parts of the machines according to the special tariffs to which they may belong, such as, wood, iron, or other material.				
2	Animals, cattle, hogs, horses, mules, sheep, &c	.....	Free....	.....	.....
3	Art works:				
	(a) Pictures, drawings, lithographs, plans, photographs, without frames.	.....	Free....	.....	.....
	(b) Frames, gilt, or otherwise	1 pood..	5.00	36 lbs...	2 50
	(c) Articles for museums, scientific, archæological, numismatical, or natural, historical collections, shells, plants, mummies, petrifactions, antiquities, medallions, old coins, antique arms, and all other curiosities which have not the qualification of usual merchandise.	.....	Free....	.....	.....
	(d) Alabaster articles with or without ornaments..	1 pood..	1.45	36 lbs...	72½
	(e) Plaster, marble, porphir, slate, serpentine, and other productions of stone for ornaments.	..do	.60	..do	30
	(f) Pottery ornaments, painted or gilt	..do	1.00	..do	65
	(g) Faience goods, white or one color, when made by molds.	..do	1.00	..do	50
	(h) Faience goods with ornamented edges	..do	1.30	..do	65
	(i) Faience goods when painted or gild, &c	..do	3.30	..do	1 65
	(k) Porcelain ornaments with painting, arabesques, flowers, &c.	..do	10.55	..do ...	5 27½
	(l) Porcelain and bisque statues, ornaments, vases, &c., with painting, gilding, and bronze	..do	21.10	..do	10 55
	(m) Glass and crystal ornaments, plain	..do	4.85	..do	2 42½
	Glass, colored and with painting, gilt, silver bronze.	..do	9.70	..do	4 85
	(n) Platina works	Pound..	20.00	.....	.....
	(o) Silver ornaments	..do	2.90	.....	.....
	(p) Gold and jewelry work with precious stones, pearls, &c.	..do ..	43.55	.....	.....
	(r) Lace and fringe work as well as cords of gold, silver, &c.	..do	7.20	.....	.....
	(s) Bronze and other copper alloys (except brass) with or without varnish covering in one piece or for separation if each piece exceeds one pound (Russian).	..do ...	15.85	.....	.....
	(t) Bronze and other copper alloys, covered with gold, platina, or silver, or their substitutes in pieces of more than one pound (Russian).	..do	26.40	.....	.....
	(u) Plated goods in silver, also comes under this tariff.				
	Imitations (s, t, u) if in less weight than one pound each piece.	1 pood ..	52.80	36 lbs..	26 40
	Articles of ornament of copper and brass, except those named, as well as articles for house use of copper or brass, in connection with tin, leather, or other material.	..do . .	4.00	..do	2 00
	Cast-iron ornaments, polished, cut, bronsed, tinned, or zinc, and with other common metals or wood combined.	..do	1.20	..do	60
	Wood carvings	..do	5.00	..do	2 50
	Mosaics or coral ornaments	..do	2.40	..do	1 20
4	Bark and extracts:				
	For tanning, bark of all kinds, and acorns	..do	.06	..do	03
	Extracts of indigo, cochineal, saffior	..do	5.00	..do	2 50
	Acids of citron and tannin, &c	..do	4.00	..do	2 00
	All chemical products and extracts not specially found in the tariff.	..do	2.40	..do	1 20

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
			Rubles.		
5	Blacking	1 pood	2.40	36 lbs	$1 20
6	Bones, hoofs, horns, &c.:				
	Bones charred, powdered, or burned to coal	do	.12	do	06
	Horns and hoofs of all kinds		Free		
	Human hair	1 pood	6.00	36 lbs	3 00
	Other kinds of hair	do	.12	do	06
7	Books, maps, engravings, &c.:				
	Books, except in Russian		Free		
	Books, Russian, without binding	1 pood	3.00	36 lbs	1 50
	Books, Russian, with binding	do	4.50	do	2 25
	NOTE.—Books are subject to censure.				
	Maps and engravings, except frames		Free		
	Frames at the rate of	1 pood	5.00	36 lbs	2 50
8	Brass and manufactures of:				
	Copper and brass otherwise named for house use in connection with wood, leather, &c.	do	4.00	do	2 00
	Copper and brass wire with or without other alloys, diameter to one-half inch; nails, tacks for pianos, &c., and for wire ropes, &c.	do	3.00	do	1 50
	Brass in sheets, &c	do	4.00	do	2 00
9	Breadstuffs:				
	Barley, oats, rye, wheat, Indian corn		Free		
	Flour, malt, and grit, or groats	1 pood	.12	36 lbs	06
	Potato flour	do	.70	do	35
	Starch, in pieces or flour	do	1.20	do	60
	Rice, prepared	do	.85	do	42½
	Rice, unprepared	do	.50	do	25
	Vermicelli, macaroni, and arrow-root	do	1.30	do	65
	Cakes of all kinds, with or without sugar (NOTE.—This tariff includes all kind of bread and biscuits.)	do	4.20	do	2 10
10	Bricks				
11	Brooms and brushes:				
	Paint brushes, all kinds	1 pood	2.90	36 lbs	1 45
	Brooms out of corn, &c., with turned handles	do	.24	do	12
12	Candles, torches, &c., and all manufactures of like nature.	do	2.20	do	1 10
13	Carriages and horse-cars:				
	Large carriages on springs, including London diligences and omnibuses.	Each	132.00	Each	66 00
	Light carriages, caleches, phaetons, char-à-bancs, cabriolets, cabs, &c.	do	92.40	do	46 20
	Spring wagons for freight or passengers, with hind springs.	do	39.60	do	19 80
	Wagons, all other kinds, including children's wagons with springs.	do	13.20	do	6 60
	Simple parts of wagons, as boxes, wheels, lanterns, except springs, axles.	1 pood	6.00	36 lbs	3 00
	Horse cars—				
	Single horse	Each	165.00	Each	82 50
	Two horses	do	220.00	do	110 00
15	Chemicals:				
	Borax, clean and otherwise	1 pood	.11	36 lbs	05½
	Antimon	do	.22	do	11
	Winestone, (tartari)	do	.26	do	13
	Solmiak, ammoniac	do	.22	do	11
	Arsenic	do	.55	do	27½
	Ferrocyan kalium or kali borrasicum, red ferrocian kali; chrome-kali and chrome, pit, imported in double barrels or cases.	do	2.65	do	1 32½
	Saltpeter kali	do	.50	do	25
	Alum, burnt or otherwise, or any matter which substitutes alum.	do	.25	do	22½
	Saltpeter natron, or Chili saltpeter, vichy salt, and other natural salt not otherwise named.	do	.06	do	03
	Waterglass, soda, or their composition	do	.30	do	15
	Soda (natron) crystallized	do	.15	do	07½
	Soda (natron) calcined as potash and pearlash	do	.30	do	15
	Caustic natron and kali	do	.45	do	22½
	Chloride of lime, bleaching powder	do	.44	do	22
	Organic acids and oxide:				
	Vinegar, citric, winestone, tannin, gall-nuts, &c.	do	4.00	do	2 00
	Cobalt, tin, and quicksilver oxide, caustic baryta, magnesia, and strontia.	do	1.20	do	60
	Sulphuric acid, sulphuret of carbon	do	.22	do	11
	Vitriol, green or iron	do	.22	do	11

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
15	Chemicals—Continued.		*Rubles.*		
	Vitriol of copper, white or zinc, or mixed with iron or copper.	1 pood ..	.60	36 lbs...	$0 30
	All chemical productions not specially mentioned...	..do	2.40	..do	1 20
16	Clocks and watches:				
	Tower clocks	Each ...	21.80	Each ...	10 90
	Alarm clocks, in brass cases	1 pood ..	4.00	36 lbs...	2 00
	Clocks without weights, in wooden cases	..do	7.90	..do ...	3 95
	Clocks, common wood skeleton movement, by weight	Each ...	.40	Each ...	20
	Clocks of wood with copper or wooden wheels	..do	.40	..do	20
	Watches, gold or gild	..do	1.75	..do	87½
	Watches, silver, with gilt edges	..do	.90	..do	45
	Watches, silver and all kinds, except those mentioned.	..do	.90	..do	45
	Movements of watches or clocks, without casing	..do	.90	..do	45
	Watch and clock material	Pound..	.12	.....	.....
17	Coal, mineral:				
	Baltic ports	1 pood ..	.00½	36 lbs...	00½
	White Sea	.....	Free	.....	.....
	Black Sea and Sea of Azof	1 pood ..	.02	36 lbs...	01
	Charcoal powder	..do	.26	..do	13
	Charcoal in plates or cylinder for use of batteries	..do	.30	..do	15
18	Copper:				
	Bars, plained	..do	4.00	..do	2 00
	Raw	..do	2.00	..do	1 00
	Bands with brass alloy	..do	2.00	..do	1 00
	Plates, prepared for use on one side	..do	2.00	..do	1 00
	Red and green or mixed metals, as tombac, prince metal, argentum, British metal, with nickel, cobalt, bismuth, cadmium, aluminium, and their various mixtures, in block, pieces, or powder.	..do	1.50	..do	75
	Pressed, or with holes in forms of nets, &c	..do	4.00	..do	2 00
	Plates, ground or polished	..do	4.00	..do	2 00
	Plates, bent and shaped	..do	4.00	..do	2 00
	In plain plates, sheets, bars, and blocks	..do	2.00	..do	1 00
	Ashes	..do	.04	..do	02
19	Cotton in bales	..do	.45	..do	23½
	Partly prepared to be used in spinning	..do	.55	..do	27½
	Dyed to be used as batting	..do	1.45	..do	72½
	Yarn, low numbers, up to No. 45 English—				
	Unbleached	..do	3.60	..do	1 80
	Bleached or dyed with exception of Adrianopol red.	..do	4.70	..do	2 35
	Dyed with Adrianopol red	..do	5.00	..do	2 50
	Higher numbers, above No. 45 English—				
	Unbleached	..do	5.00	..do	2 50
	Bleached and dyed	..do	6.00	..do	3 00
	Sewing and knitting, all kinds	..do	6.00	..do	3 00
	Lamp-wicks, &c	..do	4.80	..do ...	2 40
20	Earthenware, stone, china ware :				
	Earthenware, out of common clay or sandstone, of all kinds for house use.	..do	.26	..do	13
	Ornaments, gild or painted	..do	1.30	..do	65
	Deft ware, faience—				
	White and one shade color in the mass, without ornaments, and when also in pressed patterns.	..do	1.00	..do	50
	White, when with colored patterns and edges or stripes.	..do	1.30	..do ...	65
	White, with painting, gilding, or different designs.	..do	3.30	..do	1 65
	Porcelain or china:				
	White and of one shade, with colored edges or stripes in gilding or otherwise, but without any other designs.	..do	5.30	..do ...	2 65
	When with painting or gilt designs	..do	10.55	..do	5 27½
21	Fertilizers	.....	Free	.....	.....
22	Fish:				
	Fresh	1 pood ..	.12	36 lbs ...	06
	Dried	..do	.22	..do	11
	Smoked and salted, except herrings	..do	1.20	do	60
	In oil and the like	..do	4.80	..do	2 40
	Herring, smoked or salted	..do	.22	..do	11
23	Flax, hemp, and jute:				
	Flax, crude	.....	Free	.....	.....
	Flax, prepared and colored	1 pood ..	1.45	36 lbs ...	72½

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
23	Flax, hemp, and jute—Continued.		*Rubles.*		
	Flax, prepared and not colored	.....	Free	.....	.....
	Hemp, all kinds	.....	Free	.....	.....
	Jute, not spun but in fiber	1 pood	.40	36 lbs	$0 20
	Jute yarn in cloth	do	5.30	do	2 65
24	Fruits, fresh:				
	Salted, dried, or preserved	do	1.20	do	60
	Oranges, citrons, and their kind	do	.50	do	25
	Grapes	do	1.55	do	77½
	Capers and olives, dried or in salt or oil, in barrels, baskets, or hermetically packed.	do	2.40	do	1 20
	If, however, in vinegar and oil, in glass or porcelain, hermetically packed.	do	4.80	do	2 40
	St. Julius bread (Locust)	do	.50	do	25
	Nuts: Wallnuts, filberts, chestnuts, cocoa-nuts, &c.	do	.95	do	47½
	Almonds in shell, as well as pistachio	do	2.40	do	1 20
	Berries of all kinds, dried as plums, figs, raisins, dates not in sugar.	do	1.80	do	90
	Fruits, preserved in pots or glasses, in liquor, rum, cognac, sirup, pastilla, or chocolate.	do	9.60	do	4 80
25	Furs:				
	All kinds, except those mentioned	do	18.00	do	9 00
	Sable, elk-brown, fox, altis (fitchet), chinchilla, ice-fox, sea-otter and sea-bear.	do	36.00	do	18 00
	Muskrat, opossum, kangaroo, wolf, tiger, panther, and bear.	do	6.60	do	3 30
	Fox, martyn, fish-otter, if brought by Russian ships out of Archangel Government, or by its inhabitants.	do	6.60	do	3 30
26	Glass:				
	Window, colored, ground, milky, in mass and fluted	do	2.40	do	1 20
	If fluted on side	do	1.45	do	72½
	Glass, soluble in water	do	.30	do	15
	Window-glass not specially described	do	1.45	do	72½
	Beads on strings	do	2.15	do	1 07½
	Negatives, photographic uses	do	9.70	do	4 85
	Looking-glasses:				
	100 square verschoks, + 30 per cent	Pound	.06	Pound	03
	101 to 200 verschoks, + 30 per cent	Versch.	.00¾	.....	.....
	201 to 300 verschoks, + 30 per cent	do	.01	.....	.....
	301 to 400 verschoks, + 30 per cent	do	.01½	.....	.....
	401 to 500 verschoks, + 30 per cent	do	.02	.....	.....
	501 to 600 verschoks, + 30 per cent	do	.02½	.....	.....
	601 to 800 verschoks, + 30 per cent	do	.02½	.....	.....
	Above 800 verschoks square, ½ kopeck extra for each square verschok.				
	Looking-glass without amalgam, as cut-glass, window-glass, with molded patterns.	1 pood	1.45	36 lbs	72½
	Manufactured, as ornaments covered with amalgam	do	9.70	do	4 85
	Reflectors and balls for gardens	do	9.70	do	4 85
	Wine-glass out of white-glass, cut, &c	do	9.70	do	4 85
	Broken	.....	Free	.....	.....
	Small vases and double glass, with ornaments, &c.	1 pood	4.85	36 lbs	4 85
	Stoppers	Pound	.45	Pound	22½
	Ink-stands in unfinished state, according to state and quality from 60 kopecks to 4 rubles, 85 cents per pood.				
27	Glucose: Candies, confectioneries, &c	1 pood	9.60	36 lbs	4 80
28	Glue:				
	Fish	do	6.00	do	3 00
	Bones, brown	do	0.13	do	7½
	Bones, clear and transparent	do	6.00	do	3 00
	Bones, not transparent	1 pood	.13	36 lbs	7½
	Bones, for cabinet-makers, shoemakers, &c	do	.13	do	7½
	Transparent bones, or gum-arabicum liquid, even if not perfumed.	do	6.00	do	3 00
29	Gunpowder (prohibited).				
30	Hair:				
	Horse, manufactured	do	2.90	do	1 45
	Vegetable, raw	.....	Free	.....	.....
	Human, manufactured	Pound	.80	Pound	40
31	Hay	.....	Free	.....	.....
32	Hides and skins:				
	Hides, raw, salted	1 pood	.50	36 lbs	25
	Small hides, tanned with alum, safian, &c.	do	10.80	do	5 40
	Large hides of cattle, horses, &c., tanned, and parchment.	do	6.00	do	3 00
	Patent leather	do	7.90	do	3 95

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
			Rubles.		
33	Honey	1 pood	1.20	36 lbs.	$0 60
34	Hops	do	1.45	do	72½
35	Ice		Free		
36	India-rubber manufactures:				
	Raw	1 pood	.33	36 lbs.	16½
	Prepared and worked, as articles out of rubber, caoutchouc, or gutta-percha, without any other mixtures.	do	3.65	do	1 82½
	Prepared and worked, as articles out of rubber, caoutchouc, or gutta-percha, when containing other material.	do	6.60	do	3 30
	Texture obtained by weaving, and threads or manufactures covered by any other material.	do	24.20	do	12 10
	Shoes in connection with other material	do	11.00	do	5 50
37	Iron and steel:				
	Iron except as named hereafter	do	.40	do	20
	Iron bars, shaped	do	.90	do	45
	Iron, sheet, not specially worked	do	.60	do	30
	Iron, sheet, punched	do	1.20	do	60
	Gaffvirt (?)	do	1.55	do	77½
	Painted or covered by zinc or copper	do	1.55	do	77½
	Black	do	.60	do	30
	Ground and polished, if in pieces above 5 pounds.	do	1.20	do	60
	Ground and polished, if in pieces under 5 pounds.	do	2.50	do	1 25
	Enameled or other fine finish	do	3.00	do	1 50
	Gilt or painted	do	6.00	do	3 00
	Wire, or same of steel, up to one-half inch	do	1.10	do	55
	Manufactures of wire, steel, or iron		2.75	do	1 37½
	Steel sewing-needles	Pound	.65		
	Steel knitting-needles, pack, saddler, and sail-makers' use.	do	.35		
	Knives and scissors, tweezers, &c	do	15.85		
	In connection with other material, silver, gold, mother-of-pearl, bronze, ivory, &c.	do	31.70		
	Common pocket cutlery	do	6.60		
	Arms, cut-and-thrust sabers, and small arms, except air-guns (prohibited).	1 pood	24.00	36 lbs.	12 00
	Scythes, straw-cutters, mowing-machines, sheep-shears, shovels, picks, barrows, and forks.	do	1.20	do	60
	Tools for artisans	do	1.20	do	60
	Machines, for factories, of all kinds, with copper or parts of other material.	do	3.00	do	1 50
	Locomotives, water-engine, or any machine not containing unproportionate parts of copper.	do	1.20	do	60
	Locomotives for railways	do	1.40	do	70
	Iron buckets	do	1.20	do	60
	Iron, sheet, fashioned	do	40	do	20
	Iron, cast, or steel, in bars, puddling, or blocks	do	40	do	20
	Steel rails	do	50	do	25
	Iron in powder (ore)	do	04	do	02
	Iron boilers	do	1.20	do	60
	Iron, blacksmiths' work	do	90	do	45
38	Jewelry:				
	Gold	Pound	43.55		
	Silver	do	2.90		
39	Lamps:				
	Edison's, for electrical light	1 pood	7.20	36 lbs.	3 60
	Other lamps under brass and other metals to which they belong.				
40	Lead:				
	Bars or pieces	do	.10	do	05
	Leaves, sheets, or pipes	do	.20	do	10
	Ashes	do	.10	do	05
	Articles, except those mentioned	do	1.05	do	52½
41	Leather. (See Hides and skins.)				
42	Lime and cement:				
	Lime, chloride, burnt or ground	do	.44	do	22
	Baltic ports	do	.03	do	01½
	Other ports		Free		
	Cement, cement bricks, or burnt alabaster	1 pood	.09	36 lbs.	04½
43	Malt liquors:				
	Malt	do	.12	do	06
	Beer in barrels	do	1.30	do	65
	Beer in bottles	Bottle	.20	Bottle	10

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
			Rubles.		
44	Medical instruments: Chemical and surgical	1 pood	7.25	36 lbs	$3 62½
45	Naval stores:				
	Tar, all kinds	do	.06	do	03
	Turpentine	do	.40	do	20
	Resin	do	.06	do	03
	Pitch	do	.06	do	03
46	Oil, cake and meal: Oil containing fruits, ground or broken up	do	.12	do	06
47	Oils, vegetable, mineral, and animal:				
	Bitter almonds, with mixture of bensol	do	15.85	do	7 92½
	Bitter almonds, with addition of other fatty oils	do	15.85	do	7 92½
	Bitter almonds, pure	do	15.85	do	7 92½
	Bitter almonds, containing cyanacid (prohibited).				
	Cocoa-nut	do	.65	do	32½
	Fatty, with or without mixture of albumen	do	2.20	do	1 10
	Seal, and tallow	do	.36	do	18
	Lamp	do	.70	do	35
	Hair or pomade	do	39.60	do	19 80
	From bones	do	2.20	do	1 10
	Laurel, for chemical use	do	15.35	do	7 92½
	Mineral, like paraffine and mixture of other fatty substances or vegetable oil.	do	2.20	do	1 10
	Muscat	do	15.85	do	7 92½
	Olive	do	2.20	do	1 10
	Palm	do	.65	do	32½
	Vegetable, not named	do	2.20	do	1 10
	Machine	do	.70	do	35
	Turpentine	do	.40	do	20
	Vitriol	do	.22	do	11
	Varnish	do	.20	do	10
48	Paraffine and wax:				
	Paraffine	do	1.20	do	60
	Wax for grafting	do	1.20	do	60
	Vegetable wax (komauba)	do	1.20	do	60
	Beeswax	do	1.20	do	60
49	Paints:				
	Not specially named	do	2.40	do	1 20
	Aniline, all produced out of coal-tar	do	15.00	do	7 50
	Antimony, arsenic, cobalt and chrome	do	2.20	do	1 10
	Iron	do	.30	do	15
	Copper, except out of verdigris	do	2.20	do	1 10
	Kaolin—				
	Dried in small wooden leaves or cases, polished or painted.	Pound.	.20		
	In common packing	1 pood	5.00	36 lbs	2 50
	Prepared with oil of carbol	do	2.40	do	1 20
	Known as English red	do	.30	do	15
	For painting cheese (onato)	do	.30	do	15
50	Paper:				
	Bristol board (visiting cards, &c.)	do	3.95	do	1 97½
	Chinese silk, wrapping	do	7.90	do	3 95
	For cigarettes	do	7.90	do	3 95
	With color, all kinds	do	7.90	do	3 95
	Colored, without any printing, but glazed	do	3.95	do	1 97½
	Copy paper	do	3.95	do	1 97½
	Plain, but glued	do	3.95	do	1 97½
	With printed or other ornaments	do	7.90	do	3 95
	With indigo or aniline, shaded	do	2.65	do	1 32½
	Shaded with sulphur or saltpeter	do	.60	do	30
	Pasted upon loose cloth	do	3.95	do	1 97½
	Designs for typographs, book-binding and confections.	do	7.90	do	3 95
	Writing and lined for notes and letters	do	2.40	do	1 20
	Leather, with printing or blank	do	10.55	do	5 27½
	For patterns, which printed thereon, leathered	do	10.55	do	5 27½
	Knitting patterns	do	2.40	do	1 20
	Not glued, plain	do	7.90	do	3 95
	Impregnated with tar	do	.60	do	30
	Water-closet	do	3.95	do	1 97½
	For destruction of insects	do	.60	do	30
	Cuttings		Free		
	Sheets, with designs for cutting ornaments	1 pood	7.90	36 lbs	3 95
	Mache, unfinished	do	.60	do	30
	Finished and polished	do	5.00	do	2 50
	Material of wood	do	.20	do	10
	Material, of wood in boards	do	.26	do	13
	Asbestos	do	.60	do	30

Russian tariff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
50	Paper—Continued.		*Rubles.*		
	Pasteboards, all kinds	1 pood	.60	36 lbs	$0 30
	Board for photographs and the like	do	7.90	do	3 95
	Board, polished	do	2.40	do	1 20
	NOTE.—Blanks and lithographs undergoing a change.				
51	Plated ware. (See Articles of Art, No. 3.)				
52	Provisions:				
	Flour (except potato flour)	do	.12	do	06
	Flour, potato	do	.70	do	35
	Starch	do	1.20	do	60
	Rice, cleaned	do	.85	do	42½
	Rice, uncleaned	do	.50	do	25
	Vermicelli, macaroni, sago, arrowroot	do	1.30	do	65
	Salt	do	.20	do	10
	Salt, in Archangel ports	do	.10	do	5
	Salt for salting fish on the Murman coast		Free		
	Salt in the ports of Black Sea and Sea of Azof prohibited.				
	Meat, fresh		Free		
	Meat, smoked, salted, &c	1 pood	.95	36 lbs	47½
	Meat conserves of all kinds, sauces, pickles, soups, olives, all kinds, fruits, and vegetables.	do	4.80	do	2 40
	Cheese	do	6.00	do	3 00
	Butter	do	.50	do	25
	Lard	do	.50	do	25
	Margarine (comes probably under fatty oils)	do	2.20	do	1 10
53	Quicksilver	do	2.40	do	1 20
54	Seeds:				
	Not specially mentioned		Free		
	Mill	1 pood	.50	36 lbs	25
	Oil, in their shells	do	.12	do	06
	Plants, exotic	do	.12	do	06
55	Soap:				
	Toilet, in small pieces	do	7.20	do	3 60
	Other	do	1.80	do	90
56	Spirits (can only be imported in bottles as whisky, cognac, rum, arac, &c).	Bottle	.75	Bottle	37½
57	Starch	1 pood	1.20	36 lbs	60
58	Sugar:				
	Raw, ground, or pieces	do	2.20	do	1 10
	Loaf, lump, or candy, refined	do	3.30	do	1 65
	Molasses, not mentioned.				
	Sirup, not of honey	do	1.20	do	60
59	Tin:				
	Bars and plates, or broken	do	.45	do	22½
	Light sheets or leaves, colored or not, used as foil	do	.85	do	42½
60	Tobacco:				
	In leaf or bundles	do	15.40	do	7 70
	Cigars	Pound	1.20		
	Cut and in packages	do	1.20		
	Rolled into cheeroots, and smoking or powdered snuff.	do	1.00		
	Stems	1 pood	15.40	36 lbs	7 70
61	Vegetables:				
	Salted, in water, dried and pressed	do	.65	do	32½
	Conserves in boxes, glasses, &c	do	4.80	do	2 40
	Fresh	do	.12	do	06
	Conserves in oil or otherwise	do	4.80	do	2 40
62	Wood:				
	Valuable for cabinet and turning as pack cedar, cypress, mahogany, nut, palm, rose, palisander, in square and any shape, blocks and boards.	do	.12	do	06
	Veneer	do	.60	do	30
	Brazil wood or logwood, sumach	do	.06	do	03
	If ground	do	.30	do	15
63	Wool:				
	Natural, washed or not washed	do	1.00	do	50
	Colored, also shoddy, mungo, lain	do	2.00	do	1 00
	Combed	do	3.00	do	1 50
	Combed and colored	do	4.50	do	2 25
	Spun, of all kinds, with or without cotton, flax, or hemp—				
	If not colored	do	7.50	do	9 75
	Colored	do	9.00	do	4 50

Russian tarriff of imports—Continued.

Number.	Articles.	Russian tariff rates.		Eqivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
64	Zinc:		*Rubles.*		
	Sheets, plain	1 pood ..	.85	36 lbs ...	$0 42½
	Sheets, polished or plated with nickel	..do	3.30	..do	1 65
	Manufactured, unpolished and not colored, and consisting of not finished articles, in pieces, lumps.	..do	1.30	..do	65
	Goods, in connection with other metals or covered therewith, in pieces over 3 Russian pounds.	..do	3 30	..do	1 65
	Paint or zinc, white	..do . ..	.55	..do	27½

All tariffs are payable in gold, the difference ranging according to the value of the paper currency of the country.

One pound English equals 1.10763 Russian pounds; 36 English pounds equal 1 Russian pood; 1 yard equals 1 archerie 4.57 verschoks.

Where pounds are quoted it means Russian pounds.

The full tariff of Russia was printed in Consular Reports No. 25, p. 186.

SERVIA.

The full Servian tariff was printed in Consular Reports No. 33, p. 601.

SPAIN.

Tariff on products and manufactures of the United States at Malaga, Spain.

[Prepared by Consul H. C. Marston.]

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
			Pesetas.	
1	Agricultural implements	100 kilos	1.00	$0.1930
2	Animals:			
	Cattle	Each	18.80	2.0634
	Hogs	do	8.40	1.6212
	Horses (castrated)	do	128.30	24.7610
	Studs and mares	do	31.50	6.0795
	Mules	do	19.00	3.7838
	Sheep and all other	do	1.10	.2123
3	Works of art:			
	Paintings	do	1.00	.1930
	Sculpture:			
	Marble	100 kilos	8.00	1.5440
	Bas-relief—			
	In copper, painted or varnished	do	125.00	24.1250
	Plated or nickel plated	do	250.00	48.2500
	In zinc, painted or varnished	do	26.00	5.0180
	Gilded, plated or nickel plated	do	45.00	8.6850
	In all other metals	do	37.50	7.2375
	In all other metals, gilded, plated or nickel plated.	do	45.00	8.6850
	In wood	do	36.00	6.9480
	In wood, gilded	do	112.00	21.6160
	In cast-iron	do	7.50	1.4475
	In paste, meerschaum, or bone	do	2.50	.4825
	In clay or plaster	do	1.50	.2895
	In charcoal or papier-maché—			
	Unfinished	100 kilos	8.00	1.5440
	Finished	Kilogram	1.60	.2995
	In ivory	do	12.50	2.4125
	(Excepting all sculpture made in foreign countries by Spanish artists, as well as those purchased by the Government, corporations, or others intended for Spanish museums, provided such facts are proven.)		Free	
4	Barks and extracts:			
	Extracts for dyeing purposes	100 kilos	3.00	.5790
	Tanners' bark	do	.10	.0193
5	Blacking	do	25.60	4.9408
6	Bones, hoofs, and horns, &c., in bulk, for manufacturing purposes:			
	Bones, &c	Kilogram	.05	.0096
	Hoofs	100 kilos	.50	.0965
7	Books:			
	Bound or not bound—			
	Printed in the Spanish language	do	42.00	8.1060
	Printed in foreign languages	do	10.00	1.9300
	Printed pictures, maps, or designs	Kilogram	1.25	.2412
8	Brass and brass manufactures:			
	All sheets, blocks, nails, or tubes	100 kilos	1.60	.3088
	All worked metal, burnished or not	do	37.50	7.2375
	Same in gilded objects, plated or nickel plated	do	45.00	8.6850
9	Breadstuffs:			
	Barley	do	3.20	.6176
	Indian corn	do	3.20	.6176
	Other grains	do	3.20	.6176
	Rice—			
	Unshelled	do	4.00	.7720
	Shelled	do	8.00	1.5440
	Wheat	do	5.52	1.1222
	Flour	do	8.73	1.6848
	Bread and biscuits	do	14.00	2.7020
10	Buckets:			
	Wooden	do	10.00	1.9300
	India rubber	do	1.85	.3570

Tariff on products and manufactures of the United States at Malaga, Spain—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
10	Buckets—Continued.		*Pesetas.*	
	Canvas	100 kilos	20.80	$4.0144
	Cast-iron	do	7.50	1.4475
	Wrought iron	do	24.00	4.6320
	Zinc, iron	do	26.00	5.0180
	Casks of all kinds, iron, hooped, or otherwise	do	10.00	1.9300
11	Brooms and brushes:			
	Hair, clothes, and nail brushes—			
	With handles of wood	do	36.00	6.9480
	Ordinary quality	do	20.00	3.8600
12	Candles:			
	Paraffine, wax, and sperm	do	50.00	9.6500
	Paraffine, wax and sperm material, not made up	do	16.50	3.1845
13	Carriages:			
	Four-seat carriages, vis-a-vis, with wood sides, front seat, with or without cover, new, part used, or repaired.	Each	1,000.00	193.0000
	Two-seat carriages, with front seat or without, omnibuses for more than fifteen seats, and stages, new, part used, or repaired.	do	750.00	144.7500
	Two or four wheels, without wood sides or without cover, of any number of seats, and all other carriages not above mentioned, new, part used, or repaired.	do	312.50	60.3125
	Railway wagons or tramways, and all pieces ready manufactured for the same.	100 kilos	37.90	7.3147
14	Cars:			
	Railway, steam; all other cars or vans for railways, and pieces for same quite finished.	do	10.85	2.0940
	Transport vans and hand carts	do	10.00	1.9300
15	Chemicals:			
	Muriatic acid or clorodical acid	do	1.00	.1930
	Nitric acid	do	4.00	.7720
	Sulphuric acid	do	1.50	.2895
	Alkaloids and all salts	Kilogram	30.00	5.7900
	Alum	100 kilos	1.50	.2895
	Sulphur	do	.25	.0482
	White lead, common	do	1.00	.1930
	Carbonate alkaline, caustic alkaline, and salts of ammonia.	do	1.00	.1930
	Phosphate of lime	do	1.30	.2509
	Phosphate of potassium and sulphate of magnesia.	do	.50	.0965
	Sulphate of salt	do	3.25	.6272
	Glue and albumina	do	12.00	2.3160
	Phosphorus	do	.35	.0675
	Nitrate of saltpeter	do	1.50	.2895
	Sulphate of ammonia	do	.25	.0482
	Oxide of lead	do	2.00	.3860
	Sulphate of iron	do	1.50	.2895
	Pills, capsules, drops, and all similar	Kilogram	2.00	.3860
	Drugs not mentioned	do	.10	.0193
16	Clocks and watches:			
	Pocket gold watches	Each	7.50	1.4475
	Silver and other metals	do	2.00	.3860
	Clocks, alarm, with pendulum (common)	do	1.20	.2316
	Clocks (for wall or table), finished, with box or without, also chronometers.	do	5.60	1.0808
17	Coals:			
	Ordinary stove	1,000 kilos	1.25	.2413
	Charcoal	do	.50	.0965
	Coke	do	1.25	.2413
18	Copper:			
	Copper ore		Free	
	Melted and old copper	100 kilos	12.50	2.4125
	Copper and brass, in pigs, bars, or old metal	do	22.50	4.3425
	Copper, in plates, nails, or copper wire	do	50.00	9.6500
	Copper, in tubes, large pieces or small, also pieces prepared for kettle bottoms.	do	70.00	13.5100
	Brass wire	do	30.00	5.7900
	Copper metallic railing or unworked brass	do	60.00	11.5800
	Bronze (unworked)	do	10.00	1.9300
	Copper bronze or tin, and all mixtures of metals in which copper is used, and copper hardware which may be polished.	do	125.00	24.1250
	Copper and brass metals, and mixtures, in gilded objects, plated or nickel plated.	do	250.00	48.2500
19	Cotton:			
	Cotton with or without pulp	do	.20	.0386

Tariff on products and manufactures of the United States at Malaga, Spain—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
			Pesetas.	
19	Cotton—Continued.			
	Spun flax, cotton—			
	Twisted with 1 or 2 threads, white crude or dyed, until No. 35, inclusive.	Kilogram	1.25	$0.2413
	From 36 and upwards	do	1.75	.3377
	Of 3 or more threads, white, crude, or dyed	do	2.50	.4825
	Woven goods or thick, white or dyed, in pieces, or in handkerchiefs—			
	Until 25 threads, inclusive	do	3.00	.5790
	From 25 threads and upwards	do	2.70	.5211
	Printed, crossed, and woven in frame until 25 threads	do	4.00	.7720
	From 26 threads and upwards	do	3.70	.7141
	Transparent, muslins, linens, organdies, and gauzes of any description.	do	3.00	.5790
	Quilted and union drills	do	4.50	.8685
	Corderoy, velveteen, and double woven goods	do	3.50	.6755
	Gauzes	do	5.00	.9650
	Lace, excepting crochet lace	do	6.25	1.2062
	Crochet, woven by hand or frame	do	3.00	.5790
	Crochet, for stockings, undershirts and drawers	do	2.62	.5056
	Crochet, ready-made, for stockings, mittens, and any other articles not herein mentioned.	do	5.25	1.0132
20	Earthen, stone, and china ware:			
	Clay, stone, and brick tiles for the construction of buildings.	100 kilos	.06	.0158
	Clay, stone, and brick tiles, for pavements; colored tiles, glazed, and water tubes.	do	1.50	.2895
	Earthenware, nicely finished	do	37.50	7.2375
	Porcelain	do	52.50	10.1325
21	Fertilizers:			
	Animal grease	do	1.90	.3667
	Guanos, and all kinds of manure	do	.05	.0096
22	Fish:			
	Fresh fish	do	1.50	.2895
	Fish in tins	Kilogram	1.00	.0193
	Fish, salted, smoked, or pickled	100 kilos	12.00	2.3160
	Codfish, stock fish, dried and salt	do	28.50	4.5355
	Shell-fish	do	3.00	.5790
23	Flax, hemp, and jute:			
	Hemp and flax, raw and racked	do	2.00	.3860
	Jute, aloes, and all other vegetable fibers	do	.20	.0386
	Yarns, hemp and flax	do	27.50	5.3075
	Jute, aloes, and all other vegetable yarns	do	7.80	1.5054
	Twisted yarns of 2 or more threads	do	122.50	23.6425
	Manufactured rope	do	20.80	4.0144
	Woven goods—			
	With a cotton mixture, until 10 threads, inclusive.	Kilogram	1.25	.2413
	Hemp and flax, from 11 to 24 threads, inclusive.	do	2.50	.4825
	Hemp and flax, of 25 threads and upwards	do	4.25	.8202
	Hemp and flax, crossed or worked	do	2.00	.3860
	Laces	do	12.50	2.4125
	Elastic goods	do	5.00	.9650
	Of jute, aloes, or other vegetable fibers, with or without any cotton mixture.	do	.45	.0868
	In crossed or worked goods, with or without cotton.	do	.90	.1736
24	Fruits:			
	Natural	Kilogram	2.50	.4825
	In sugar	100 kilos	1.00	.1930
	Preserved	do	1.00	.1930
25	Furs:			
	Prepared, but not made up	do	.64	.1235
	Made up	do	9.00	1.7370
	Kid gloves	do	32.00	6.1760
26	Glass:			
	Common hollow glass	100 kilos	8.00	1.5440
	Imitation, gilded inside and outside	do	45.00	8.6850
	Plain glass and crystal	do	17.50	3.3775
	Glass mirrors and all glasses for watches and telescopes.	do	80.00	15.4400
27	Glucose	do	1.00	.1930
28	Glue	do	12.00	2.3160
29	Gunpowder of all kinds	Kilogram	.47	.0907
30	Hair:			
	Goat hair	100 kilos	.50	.0965
	Hogs, horse, and all kinds not mentioned	do	1.00	.1930

Tariff on products and manufactures of the United States at Malaga, Spain—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
			Pesetas.	
30	Hair—Continued.			
	Camels', wild goats' hair	100 kilos	12.00	$2.3160
	Human hair in ornaments and otherwise manufactured.	....do	10.00	1.9300
31	Hay:			
	Of all kinds	....do	.50	.0965
32	Hides and skins:			
	Not tanned	....do	6.00	1.1580
	Calf-skin, salted or tanned into leather	Kilogram	5.00	.9650
	All other skins, including sole-leather	....do	2.00	.3860
33	Honey, all kinds	100 kilos	5.60	1.0808
34	Hoops, iron	....do	1.00	.1930
35	Ice		Free	
36	India-rubber:			
	In rough	100 kilos	3.00	.5790
	In sheets and tubes	Kilogram	.75	.1447
	All kinds of bands and elastics	....do	.50	.0965
	Manufactured—			
	In any objects	....do	1.85	.3570
	In ornaments	....do	10.00	1.9300
	In woven goods	....do	3.00	.5790
	In oil-cloth or floor-cloths	100 kilos	32.50	6.2725
	All other classes	Kilogram	1.00	.1930
37	Iron and steel:			
	Cast iron—			
	In pigs or old iron	100 kilos	2.50	.4825
	In tubes	....do	4.70	.9071
	In ordinary manufacture	....do	7.50	1.4475
	In fine manufacture	....do	17.50	3.3775
	Wrought iron and steel—			
	For railway bars	....do	8.00	1.5440
	Plates, from 6 millimeters in thickness, with bolts.	....do	9.00	1.7370
	Bars of any description, in plates until 6 millimeters; springs for carriages and hoops.	....do	13.00	2.5090
	In large pieces, composed of bars and plates, attached by bolts for building purposes.	....do	16.90	3.2617
	In wire	....do	8.00	1.5440
	In nails and bolts, even those with brass heads.	....do	20.00	3.8600
	In tubes	....do	13.00	2.5090
	Metallic railing, unmanufactured	....do	16.00	3.0880
	Manufactured, of all sorts	....do	24.00	4.6320
	Old steel	....do	5.00	.9650
38	Jewelry:			
	Gold, with or without stones	100 grams	25.00	4.8250
	Silver, with or without stones	....do	3.50	.6755
	Precious stones, unmounted		Free	
39	Lamps:			
	In copper, or mixture with copper	100 kilos	125.00	24.1250
	Gilded or plated or nickel plated	....do	250.00	48.2500
	Zinc	....do	26.00	5.0180
	Zinc gilded	....do	45.00	8.6850
	Other metals	....do	37.50	7.2375
	Iron	....do	24.00	4.6320
	Tin	....do	63.50	12.0625
	Gold or silver	100 grams	2.60	.5018
	Porcelain	100 kilos	52.50	10.1325
	Stone	....do	37.50	7.2375
	Glass	....do	45.00	8.6850
40	Lead:			
	Pigs, plates, sheets, balls, and shot	....do	1.60	.3088
	Manufactured	....do	37.50	7.2375
41	Leather;			
	All articles for harness	Kilogram	7.75	.7237
	All objects lined with leather	....do	5.00	.9650
42	Lime and cement:			
	Stone or gravel used for building purposes	100 kilos	.06	.0158
	Lime		Free	
43	Malt liquors, all sorts	Liter	1.00	.1930
44	(Medical instruments—pays by the predominating metal of which it is composed.)			
45	Naval stores: Resin, tar, turpentine, and pitch	100 kilos	.41	.0791
46	Oil cake and meal	1,000 kilos.*	.50	.0965
47	Oils:			
	Animal grease	100 kilos	1.00	.1930
	Mineral oil	....do	.41	.0791

*In Spanish custom-houses the ton is always calculated as 1,000 kilograms.

Tariff on products and manufactures of the United States at Malaga, Spain—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
			Pesetas.	
47	Oils—Continued.			
	Vegetable oil, cocoa and palm	100 kilos	1.00	$0.1930
	All others, except olive oil	do	23.00	4.4390
	Petroleum, paraffine, and wax, crude oil (natural)	do	8.75	1.6887
	Refined and all other rectified mineral oils	do	26.50	5.1145
49	Paints:			
	Prepared paints	do	26.50	5.1145
	Unprepared in dust or stone	do	7.50	1.4475
50	Paper manufactures:			
	Printed wall paper, with gold, silver, or other ornamentation.	do	2.00	38.6000
	All others	do	27.50	5.3075
	Paper for packing purposes	do	12.50	2.4125
	All other kinds not expressed	do	40.00	7.7200
	Paper and cartons in sheets or boxes covered with common paper, objects in paste or plaster, or cartons, plaster unfinished.	do	8.00	1.5440
	In cartons, objects finished, boxes of cartons	Kilogram	1.50	.2895
	Printing paper	100 kilos	10.50	2.0265
	Writing paper, printed or lithographed	do	30.00	5.7900
	Paper cut and lined or cut by hand	do	56.25	10.8562
51	(Plated ware pays according to the class of material used in the manufacture.)			
52	Provisions:			
	Salted, dried, and pickled beef	Kilogram	.31	.0598
	Pork and bacon	100 kilos	15.00	2.8950
	All other kinds	do	5.70	1.1001
	Lard	do	15.00	2.8950
	Butter	do	56.00	10.8080
	Cheese	Kilogram	.36	.0694
53	Quicksilver	100 kilos	1.60	.3088
54	Seeds:			
	For growing purposes	do	1.60	.3088
	Seeds containing oils	do	.20	.0386
	All others not mentioned	do	10.00	1.9300
55	Soap:			
	Ordinary	do	18.00	3.4740
	Perfumed	Kilogram	2.00	.3860
56	Spirits:			
	Alcohol, gin, rum, and spirits of low degrees	100 liters	23.75	4.5937
57	Starch	100 kilos	10.00	1.9300
58	Sugar:			
	Sugar	do	59.25	11.4352
	Molasses	do	5.60	1.0808
59	Tin:			
	Ordinary	do	20.00	3.8600
	Manufactured	do	62.50	12.0625
60	Tobacco:			
	In leaf	Kilogram	16.25	3.1362
	Cigars in boxes	do	15.00	2.8950
	Cigars without boxes	do	18.25	3.5222
	Cigarettes, boxes	do	14.00	2.7020
61	Vegetables:			
	Fresh	100 kilos	1.25	.2412
	Dried	do	3.20	.6176
62	Wood:			
	Staves	1,000 pieces	2.00	.3860
	Common timber for building purposes	Cubic meter	2.70	.5211
	Fine wood for furniture, in pieces or boards	100 kilos	.55	.1061
	Sawed in thin pieces	do	4.28	.8260
	Pipe shooks and loose staves	do	10.00	1.9300
	Furniture:			
	Common wood	do	20.00	3.8600
	Fine wood		36.00	1.9480
	Fine wood and inlaid of any materials	100 kilos	112.00	21.6160
63	Wool:			
	Common—			
	Rough	do	12.00	2.3160
	Washed	do	24.00	4.6320
	All other kinds and long wool for knitting	do	12.00	2.3160
	Washed	do	24.00	4.6320
	Racked and carved wool, waste	do	33.00	6.3690
	Wool, floor carpets, pure or with mixture of any other material.	do	139.55	26.9331
	Cloths, and all other goods in this branch, pure wool, or mixture of any other material.	Kilogram	800.00	1.5440

Tariff on products and manufactures of the United States at Malaga, Spain—Continued.

Number.	Tariff classification.	Unit.	Rates of duty.	Equivalent in United States currency.
64	Zinc:		*Pesetas.*	
	Pigs, sheets, or paste	100 kilos	6.00	$1.1580
	Plates, nails and wire	do	15.00	2.8950
	Manufactured objects	do	26.00	5.0180
	Manufactured objects, gilded, plated, or nickel plated.	do	45.00	8.6850

The full tariff of Spain was printed in Consular Reports No. 26½, p. 471. The new consular tariff will be found in No. 70, p. 288.

SWEDEN.

[Prepared by Consul Sidney W. Cooper.]

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
1	Agricultural implements		Free		
2	Animals:				
	Cattle		Free		
	Hogs		Free		
	Horses		Free		
	Mules		Free		
	Sheep		Free		
	All others		Free		
3	Art works		Free		
4	Bark and extracts not specified		Free		
5	Blacking, the weight of boxes or bottles included	100 kilos	5.00	Cwt	$0 68
6	Bones:				
	All kinds unworked and keys to clefs, and also cloven or sawed bones.		Free		
	Worked:				
	Bone-flour		Free		
	Ivory and walrus teeth	100 kilos	118.00	Cwt	16 06
	Other kinds	do	35.00	do	4 76
	Hoofs		Free		
	Horn, unworked or rasped		Free		
	Worked, shives		Free		
	Buttons, varnished or unvarnished, weight of covering included.	100 kilos	40.00	Cwt	5 45
	Other kinds	do	118.00	do	16 06
7	Books:				
	Printed in Swedish and bound	do	25.00	do	3 40
	Other kinds not specified, and also such used by blind men.		Free		
	Bound, with clean or lined paper, same duty as for the paper and 20 per cent. added.				
	Maps		Free		
	Engravings, not bound, and belonging to printed works.		Free		
	Other kinds	100 kilos	15.00	Cwt	2 04
	Bound, same duty as for the frame.				
8	Brass:				
	Metals single or compound, not specified, unworked.		Free		
	Worked plates, latten, &c., and other stuffs for further working.		Free		
	Bolts and nails for building or sheathing of vessels		Free		
	Other kinds, base tinned, wire gauze, and also more or less gilded, silvered, or galvanized metal works.	100 kilos	70.00	Cwt	9 52
	Not gilded, silvered, &c	do	35.00	do	4 76
	Old and broken metals		Free		
	Broken works of metal		Free		
9	Breadstuffs:				
	Barley		Free		
	Bread		Free		
	Biscuits, cakes, &c	100 kilos	15.00	Cwt	2 04
	Indian corn, oats, rye, wheat, and flour		Free		
10	Bricks				
11	Brooms and brushes:				
	With handles of unpolished or painted wood or iron	100 kilos	10.00	Cwt	1 36
	With handles of lacquered or polished wood	do	24.00	do	3 27
	With handles of bone, horn, &c	do	47.00	do	6 40
	Whitewash brushes and painting pencils		Free		
12	Candles:				
	Tallow	do	7.00	Cwt	95
	Other kinds	do	12.00	do	1 63
13	Carriages and horse-cars:				
	With two wheel and sledges	Piece	15.00	Piece	4 02
	Small phaetons	do	25.00	do	6 70

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent, in United States money.	
		Unit.	Duty.	Unit.	Duty.
13	Carriages and horse-cars—Continued.				
	Half-covered, less	Piece	50.00	Piece	$13 40
	Other kinds	do	100.00	do	26 80
	Horse-cars	do	5.00	do	1 34
14	Cars, railroad	do	5.00	do	1 34
15	Chemicals not specified, 5 per cent. ad valorem				
16	Clocks and watches:				
	Chronometer and ship clocks	do	1.00	do	.268
	Wall and table clocks, with covering of bronze, other metal, or of alabaster, and porcelain.	100 kilos	70.00	Cwt	9 52
	With covering of wood, or other kinds	do	47.00	do	6 40
	Watches with capsule of gold	Piece	1.00	Piece	.266⅔
	With capsule of other metal	do	.50	do	.13⅓
	Clock or watch works or parts thereof, not specified	100 kilos	100.00	Cwt	13 60
17	Coal		Free		
18	Copper:				
	Raw and refined		Free		
	Ore		Free		
	Ingots, bar		Free		
	Sheets, plates, &c., for further working		Free		
	Bolts and nails for building or sheathing of vessels		Free		
	Other works of copper:				
	Unpolished	100 kilos	35.00	Cwt	4 76
	Polished	do	70.00	do	9 52
	Copper wire, gilded, silvered, &c	do	235.00	do	31 99
	Other kinds		Free		
19	Cotton:				
	Dyed or undyed		Free		
	Manufactures:				
	Band and strings of cotton	100 kilos	110.00	Cwt	14 97
	Blond laces	do	235.00	do	31 99
	Thread	do	40.00		5 44
	Webs: machine-felt, round woven, for use in manufactories		Free		
	Sail-cloth	100 kilos	14.00	Cwt	1 90
	Bookbinder cloth pasted and pressed or dyed	do	50.00	do	6 80
	Plush, felt, and paroum	do	90.00	do	12 25
	Tyll	do	250.00	do	34 04
	Other quite or partly thin webs, as gauze, &c	do	175.00	do	23 82
	Close webs, two handled, which all over or partly on an area of 1 square centimeter, contain 80 threads or more in warp and woof together.	do	175.00	do	23 82
	Other kinds, unbleached, undyed, or not printed	do	50.00	do	6 80
	Bleached or dyed	do	90.00	do	12 25
	Printed or pressed	do	110.00	do	14 97
	Tricot and stockings	do	118.00	do	16 06
	Yarn, undyed	do	15.00	do	2 04
	Yarn, dyed or printed	do	30.00	do	4 08
20	Earthen, stone, and china ware:				
	Earthenware and worked terralith, terra-cotta, not specified.	do	7.00	do	95
	Stone, not specified, unworked		Free		
	Stone, polished	100 kilos	3.00	Cwt	41
	Stone, other kinds, china ware, not genuine, white or one colored but not painted.	do	10.00	do	1 36
	Painted or printed	do	16.00	do	2 17
	Chinaware, genuine, white or one colored	do	24.00	do	3 27
	Gilded, galvanized or painted	do	47.00	do	6 40
21	Fertilizers, all kinds, not specified	do	Free		
22	Fish:				
	Anchovies and sardals in oil or brine in hermetic boxes (weight of boxes included).	do	20.00	do	2 72
	Other kinds of conserves, (weight of boxes included	do	30.00	do	4 08
	All other kinds of fish, fresh, dry or salted	do	Free		
23	Flax, hemp, and jute:		Free		
	Cordage, all kinds	do	Free		
	Sail-cloth, all kinds	do	19.00	do	2 59
	Webs of flax and hemp or any vegetable stuff not specified, mixed or not with cotton or jute:				
	(a) Smooth, two-handled, and such diapered webs which whole surface is homogeneous (not woven in patterns) and on an area of 1 square centimeter contain highest 25 threads together in warp and woof.	do	19.00	do	2 59

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
23	Flax, hemp, and jute—Continued.				
	Webs of flax and hemp, &c.—Continued.				
	On an area of 1 square centimeter containing more than 25, even 35, threads together in warp and woof.	100 kilos.	35.00	Cwt	$4 76
	Which on an area of 1 square centimeter contain more than 35, even 50 threads together in warp and woof.	...do	90.00	.. do ...	22 24
	Which on an area of 1 square centimeter contain more than 50 threads in warp and woof together.	...do	150.00	...do	20 42
	(*b*) Carpet-web not reckoned to webs under A.	...do	40.00	...do ..	5 44
	(*c*) Ticking and jump webs not reckoned to webs under A.	...do	90.00	...do	12 25
	(*d*) Webs, other kinds	...do	150.00	...do	20 42
	Webs of jute unbleached and undyed to bags packages.	.....	Free.	.....	.....
	Other kinds	...do	40.00	...do	5 45
	Yarn of hemp or flax undyed and unbleached	...do	20.00	...do	2 72
	Bleached, dyed, or printed	...do	40.00	...do	5 44
	Yarn of jute unbleached and undyed	.....	Free	.....	.....
	Dyed, bleached, or printed	...do	10.00	...do	1 36
	Yarn of other vegetables, and pack-thread, all kinds.	...do	20.00	...do	2 72
	Thread of flax and hemp, unbleached and undyed.	...do	40.00	...do	5 44
	Bleached or dyed	...do	60.00	...do	8 16
24	Fruits:				
	Fresh, not specified	.. do	10.00	...do	1 36
	Preserved in brandy, vinegar, weight of bottles, &c., included.	...do	30.00	...do	4 08
	Dry or salted	...do	25.00	...do	3 40
	Preserved in sugar, weight of flasks, bottles, &c., included.	...do	47.00	...do	6 40
25	Furs:				
	Undressed:				
	Goat, reindeer, seal, elk, hart, roe, hare, and sheep, (gray Crimea and Calmuck excepted) and kangaroo.	.....	Free.	.....	.....
	Beaver, fitch, chinchilla marten, sable, blue, and black fox, and otter.	...do	240.00	Cwt	32 67
	Other kinds	...do	50.00	...do ...	6 80
	Dressed:				
	Goat, reindeer, seal, elk, hart, roe, hare, and sheep, (gray crimea and genuine calmuck excepted) and kangaroo.	...do	25.00	...do	3 40
	All other kinds (same duty as for undressed, and 20 per cent. added.)				
	Articles of furs, as muffs, &c., (same duty as for the fur, and 20 per cent. added.)				
26	Glass:				
	Pots, bottles, flasks, &c, quite uncut	...do	2.00	...do	27
	With cut stoppers, but not otherwise cut	...do	10.00	...do	1 36
	Gallipots, &c., marked with signature by burning	100 kilos	10.00	...do	1 36
	Chemical glassware	.....	Free	.....	.....
	Optical glassware, unset	.....	Free	.....	.....
	Scuttle glass for vessels of not less than 7 millimeters in thickness and not exceeding an area of 10 square decimeters, with or without frames.	.....	Free	.....	.....
	Patent and tiles	.....	Free	.....	.....
	Panes and looking-glass plate, uncut or cut dim but unfoliated.	100 kilos.	7.00	Cwt	0 95
	Unfoliated, cut, and polished of an area of even one-half square meter.	...do	15.00	...do	2 04
	Of larger dimensions	...do	25.00	...do	3 40
	Foliated, and of an area of even one-half square metre.	...do	25.00	...do	3 40
	Of larger dimensions	...do	40.00	...do	5 44
	Other kinds, not specified, decanters, pressed or cut, flasks included.	...do	35.00	...do	4 75
	Glassy flux, unset	...do	140.00	...do	19 06
	Spectacles, telescopes, and other optical instruments.	...do	35.00	...do	4 76
27	Glucose	...do	23.50	...do	3 20
28	Glue:				
	Carlock and gelatine	...do	170.00	...do	23 14
	Other kinds	...do	10.00	...do	1 36

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
29	Gunpowder	100 kilos.	12.00	Cwt	$1 64
30	Hair:				
	Horse-hair	do	20.00	do	2 72
	Other kinds, not specified		Free		
	Webs:				
	Felt of cattle-hair		Free		
	Other kinds	100 kilos.	60.00	Cwt	8 16
	Manufactures of hair and horse-hair, with or without setting and locks.	do	80.00	do	10 88
	Wigmaker works	do	120.00	do	16 32
31	Hay		Free		
32	Hides and skins:				
	Undressed		Free		
	Dressed:				
	Leather and tanned hides and skins and chamois	100 kilos.	24.00	Cwt	3 27
	Other kinds not named under "Furs"	do	47.00	do	6 40
33	Honey	do	10.00	do	1 36
34	Hops	do	10.00	do	1 36
35	Ice		Free		
36	India-rubber:				
	Vulcanized or not, unworked, and also gutta-percha unworked.		Free		
	Rolled in shives of a thickness of 1 millimeter or more, with or without woof.		Free		
	Worked: rolled shives of less than 1 millimeter in thickness, without woof.	do	100.00	Cwt	13 60
	With woof	do	175.00	do	23 82
	Pipes, buffers, &c., set in peel of wood	do	100.00	do	13 60
	Shoes, boots, &c., and other kinds not specified and not considered as machinery or tools, or parts thereof.	do	100.00	do	13 60
	Machinery and tools, or parts thereof, not specified		Free		
37	Iron and steel:				
	Pig-iron, bar-iron, and blooms		Free		
	Rails, with thereto belonging, sharfs, bolts, shrews, nuts, nails, &c.		Free		
	Other rolled or hammered bars, &c.; nuts, screws, and rivets not belonging to rails, of 12 millimeters and more in diameter.		Free		
	Rolled or hammered plates, with or without cover of zinc, tin, or lead, and not more worked as being bent and holed.		Free		
	Plates of 3 millimeters in thickness or more, less or more worked, and other stuffs for further working.		Free		
	Anchors, grapplings, cables, and chains, on which the link has a diameter or more.		Free		
	Chain-stoppers, crooks, and knees		Free		
	Chains with the link less in diameter than of 6 millimeter.	100 kilos.	10 00	Cwt	1 36
	Nails in length of 45 millimeters or more	do	3.00	do	41
	Nails less in length than 45 millemeters, and small nails, &c.	do	15.00	do	2 04
	Iron pegs	do	7.00	do	95
	Buttons	do	15.00	do	2 04
	Melted beams, piers, lamp-posts, palisades, monuments, grates, and weights, &c.	do	1.00	do	13
	Chimneys, ovens, &c., and melted, not enameled, glaciated, or tinned, pots, pans, mortars, and cribs.	do	2.00	do	27
	Tables, sofas, seats, foot-scrapers, spitting-boxes, lamp-posts, pressing and box iron, and other melted articles not specified, being enameled, glaciated, or tinned.	do	8.00	do	1 09
	Copy-presses, stretchers, coffee and chopping mills, and other machinery used in household.	do	15.00	do	2 04
	Finer melted goods, not specified, as fruit-baskets, lamps, candle-sticks, &c., and not considered as being toys and trinkets.	do	25.00	do	3 40
	Money-boxes and bedsteads, 10 per cent. ad valorem.				
	Other iron and steel ware not considered as machinery, and tools, gilded or silvered.	do	70.00	do	9 52
	Nickeled, polished or lacquered	do	35.00	do	4 76
	Other kinds	do	15.00	do	2 04
	Iron and steel wire		Free		

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
37	Iron and steel—Continued.				
	Machinery and tools		Free		
	Knives, razors	100 kilos.	59.00	Cwt	$8 03
	Pen-knives	do	118.00	do	16 06
	Case-knives and other coarse knives	do	14.00	do	1 90
	Table knives, forks, and other kinds, not specified, with handles of silver or gilded, plated, or of ivory.	do	118.00	do	16 06
	With handles of other stuff	do	24.00	do	3 27
	Scissors, shears, and such considered as tools		Free		
	Other kinds, unpolished	100 kilos.	24.00	Cwt	3 27
	Other kinds, polished	do	59.00	do	8 06
38	Jewelry:				
	Jewels, unset		Free		
	Jewels, set in gold	100 kilos	1,170.00	Cwt	159 29
	Gold:				
	Unworked		Free		
	Worked with or without jewels	100 kilos.	1,170.00	Cwt	159 29
	Leaf-gold and thread	do	235.00	do	31 99
	Silver:				
	Unworked		Free		
	Worked	100 kilos.	700.00	Cwt	95 20
	Leaf silver	do	140.00	do	19 06
	Silver thread	do	235.00	do	31 99
39	Lamps (same duty as the material of which being principally manufactured).				
40	Lead:				
	Unworked		Free		
	Worked, not specified: plates		Free		
	Worked unpainted and unlacquered	100 kilos.	7.00	Cwt	95
	Painted and lacquered	do	35.00	do	4 76
	Black lead	do	Free		
	Pencils, all kinds	do	35.00	do	4 76
	Sugar of lead ore		Free		
41	Leather:				
	Sole leather and tanned hides and skins	100 kilos.	24.00	do	3 27
	Other kinds	do	47.00	do	6 40
	Manufactures not specified pay the same duty as the material of which being manufactured, and 20 per cent. added.				
	Straps of leather to machines		Free		
	Shoes, not specified, of silk, or mixed	do	235.00	do	31 99
	Of felt or sail cloth with or without soles of leather	do	80.00	do	10 89
	Of morocco, cordovan or dyed, pressed, or lacquered skins.	do	140.00	do	19 06
	Coarse boots and sea boots		Free		
	Boot with soles of wood		Free		
	Other kinds	do	94.00	do	12 79
42	Lime and cement		Free		
43	Malt liquors:				
	Porter in casks	do	7.00	do	95
	Porter in bottles, &c	100 liters	12.00	100 liters	3 21
	Other kinds in casks	100 kilos.	5.00	Cwt	68
	Other kinds in bottles	100 liters	8.00	100 liters	2 14
44	Medical instruments		Free		
45	Naval stores:				
	Resin		Free		
	Tar		Free		
	Pitch		Free		
	Turpentine, native		Free		
	Turpentine oil and spirit	100 kilos.	7.00	Cwt	95
46	Oil cakes and meal		Free		
47	Oils:				
	Animal		Free		
	Mineral:				
	Petroleum, &c	100 kilos.	2.00	Cwt	27
	Unrectified		Free		
	Vegetable:				
	Greasy, not volatile:				
	Flax and rape oil	do	7.00	do	95
	Other kinds in casks	do	2.00	do	27
	Other kinds in other vessels	do	5.00	do	68
	Varnish	100 liters	25.00	100 liters	3 30
	Volatile oils:				
	Æther and essences	do	140.00	do	37 52
	Other kinds, not specified, weight of bottles, flasks, &c., included.	do	1.00	do	13 60

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
48	Paraffine and wax:				
	Paraffine:				
	Unrefined	.....	Free	.....	.....
	Refined, 5 per cent. ad valorem	.....	.....	.....	.....
	Wax:				
	All kinds	.....	Free	.....	.....
	Manufactures, 10 per cent. ad valorem	.....	.....	.....	.....
49	Paints:				
	White lead and zinc, &c	100 kilos	5.00	Cwt	$0 68
	Indigo, extract of indigo, carmine, and cochineal	do	20.00	do	2 72
	Pine soot	do	5.00	do	68
	Paints prepared with oil	do	5.00	do	68
	Other kinds, prepared or unprepared, not specified	.....	Free	.....	.....
	Logwood, Brazil-wood, &c	.....	Free	.....	.....
	Small color-boxes with colors, weight of box included.	do	80.00	do	10 89
50	Paper:				
	Sheathing, &c	.....	Free	.....	.....
	Polishing and emery	.....	Free	.....	.....
	Cartouch and maculature, and other coarse, not used for writing and printing.	do	2.00	do	27
	Gilded, silvered, glazed, &c., and paper jointed with web.	do	20.00	do	2 72
	Other kinds, also lined	do	10.00	do	1 36
	Manufactures: envelopes and paper purses	do	20.00	do	2 72
	Hanging paper	do	13.00	do	1 77
	Pasteboard and manufactures thereof, not specified, unlacquered.	do	35.00	do	4 76
	Gilded, lacquered or bronzed	do	60.00	do	8 16
51	Plated ware. (See Brass.)				
52	Provisions:				
	Meat, fresh or salt	.....	Free	.....	.....
	Oleomargarine	.....	Free	.....	.....
	Lard	.....	Free	.....	.....
	Butter	.....	Free	.....	.....
	Cheese	do	7.00	do	95
53	Quicksilver	do	35.00	do	4 76
54	Seeds:				
	Canary	do	10.00	do	1 36
	Other kinds not specified	.....	Free	do	.....
55	Soaps:				
	Soft soap	do	5.00	do	68
	Hard soap, perfumed	do	28.00	do	3 80
	Other kinds	do	10.00	do	1 36
56	Spirits:				
	Brandy and spirit of corn or potatoes, in casks, larger or less, reduced to a strength of 50 per cent. of alcohol by 15 degrees of heat Celsius, or 59 degrees of heat Fahrenheit.	100 liters	60.00	100 liters	16 08
	Arrack, reduced to the same strength by the same degrees of heat.	do	60.00	do	16 08
	Rum, reduced to the same strength by the same degrees of heat.	do	60.00	do	16 08
	Cognac:				
	Produced of grapes in France and direct imported by way of water, reduced to the same strength by the same degrees of heat.	do	45.00	do	12 06
	If produced in another country or otherwise imported, reduced to a strength as aforesaid.	do	60.00	do	16 08
	Produced of other fruits, reduced to a strength of 50 per cent. of alcohol by 15 degrees of heat Celsius resp., 59 degrees Fahrenheit.	do	60.00	do	16 08
	Imported in other vessels, as bottles, &c., without respect to strength of alcohol.	do	90.00	do	24 12
	If less parties as 250 liters are imported, 15 öre per liter will be added to the tariff rates above given.				
	Liquors of spirit with sugar	do	120.00	do	32 16
	Cologne water, weight of flasks included	100 kilos	100.00	Cwt	13 60
57	Starch	do	10.00	do	1 36
58	Sugar:				
	Refined, all kinds	do	33.00	do	4 49
	Unrefined, not darker, as No. 18 of the Dutch standard.	do	33.00	do	4 49
	Darker, as No. 18 of the Dutch standard	do	23.50	do	3 20
	Molasses	do	23.50	do	3 20

Sweden—Continued.

Number.	Articles.	Tariff rates of duty, Swedish crowns.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
59	Tin:				
	Unworked		Free		
	Worked, not specified, gilded, silvered, or lacquered	100 kilos.	70.00	Cwt	$9 5
	Other kinds	do	35.00	do	4 7
60	Tobacco:				
	Unworked, leaf and stalk	do	100.00	do	13 60
	Worked:				
	Cigars and cigarettes	do	300.00	do	40 84
	Other kinds	do	120.00	do	16 33
61	Vegetables:				
	Not specified, potatoes, beans, &c				
	Fresh, other kinds	do	10.00	do	1 36
	Prepared in brandy or vinegar	do	30.00	do	4 08
	Prepared in sugar	do	47.00	do	6 40
	Dry and salted	do	25.00	do	3 40
62	Wood:				
	Unworked		Free		
	Worked:				
	Stakes, beams, spars, deals, and battens, juniper, staves.		Free		
	Gun-stock stuffs, handspikes, laths, moldings, box stuff, sawed, masts, bowsprits, spars, and pump-barrels, all kinds.		Free		
	Staves, all kinds, not complete worked, and ribs		Free		
	Hoops, wood, all kinds, and oar stuff		Free		
	Fanér shives and planed box stuff, of 7 millimeters in thickness and less, pay half the duty which is stipulated for joinery of the same wood.				
	Keys of ebon	do	Free		
	Turnery ware and sculptures	do	59.00	do	8.03
	(If the weight exceeds 1 kilogram per piece the surplus in weight will pay the same duty as is stipulated for joinery.)				
	Cooper works:				
	Of fir or pine	do	1.00	do	54
	Of other kinds	do	4.00	do	31
	Other more or less worked goods, joinery included, not stained, lacquered, or painted, of fir or pine.	do	2.00	do	27
	Painted or lacquered, &c	do	4.00	do	54
	Of elm, ash, birch, beech, oak, and other native wood, not specified, massive or not.	do	8.00	do	1.09
	Of pear, walnut, mahogany, or other foreign wood, massive or not, and also gilded works.	do	15.00	do	2.04
	Furniture:				
	Darned, but without covering, pay duty as stipulated above and 20 per cent. added.				
	Darned, and with covering, pay the same duty as stipulated above and 40 per cent. added.				
63	Wool:				
	Dyed or undyed		Free		
	Webs of wool or mixed with cotton, flax, &c. (silk excepted):				
	Machine felt to use in manufactories		Free		
	Felts and carpets	do	60.00	do	8.16
	Press cloth	do	20.00	do	2.72
	Other kinds	do	175.00	do	23.82
	Mixed with silk	do	235.00	do	31.99
	Yarn, undyed and unbleached	do	20.00	do	2.72
	Yarn, dyed or bleached	do	35.00	do	4.76
64	Zinc:				
	Unworked		Free		
	Worked:				
	Plates and nails for sheathing of vessels		Free		
	Gilded or silvered	do	70.00	do	9.52
	Not painted or varnished	do	7.00	do	.95
	Other kinds	do	35.00	do	4.76

The full tariff of Sweden was printed in Consular Reports No. 5, p. 472.

SWITZERLAND.

Swiss customs duties

[Prepared by Consul-General Boyd Winchester.]

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
1	Agricultural implements, harrows, plows, &c., 6 per cent. ad valorem.			
2	Animals:			
	Cattle:		*Francs.*	
	Over 150 kilos* weight	Head	5.00	$0.965
	From 60 to 150 kilos weight	do	2.00	.386
	Calves, under 60 kilos weight	do	1.00	.193
	Hogs:			
	25 kilos weight or over	do	2.00	.386
	Under 25 kilos weight	do	1.00	.193
	Horses	do	3.00	.579
	Colts	do	1.00	.193
	Mules	do	3.00	.579
	Asses	do	1.00	.193
	Sheep and goats	do	.50	.096
	All others		Free	
3	Art works:			
	Books printed, maps	Quintal†	1.00	.193
	Engravings of all kinds, without frames	do	1.00	.193
	Musical instruments	do	16.00	3.088
	Parts of musical instruments	do	16.00	3.088
	Physical, optical, and astronomical instruments	do	16.00	3.088
	Statuary works:			
	All kinds	do	16.00	3.088
	Zinc	do	5.00	.965
	Cast iron	do	2.00	.386
	Oil paintings on glass	do	30.00	5.79
4	Bark and extracts:			
	Bark for tanning purposes	do	.02	.00386
	Bark for apothecary purposes	do	3.00	.579
5	Blacking	do	7.00	1.351
6	Bones, hoof, horns, &c.:			
	Horns:			
	Rough	do	.30	.0570
	Manufactured	do	.60	.1158
	Bones: Ivory, morse-tooth, and others, rough	do	10.00	1.93
	Whalebone:			
	Rough	do	4.00	.772
	Polished	do	16.00	3.088
	Turtle-shell and pearl mother, rough	do	10.00	1.93
	Pearls and corals, not mounted	do	50.00	9.65
	Turtle-shell and pearl mother, manufactured	do	100.00	19.30
7	Books. (See No. 3, Art works.)			
8	Brass, and manufactures of:			
	Brass:			
	Hammered	do	3.00	.579
	Rolled	do	3.00	.579
	Drawn	do	3.00	.579
	In bars	do	1.00	.193
	In blocks	do	1.00	.193
	In plates	do	1.00	.193
	In poles	do	3.00	.579
	In sheets	do	3.00	.579
	Wire	do	3.00	.579
	Pipes	do	3.00	.579
	Articles	do	16.00	3.088
	Articles, unfinished	do	10.00	1.93
	Texture	do	7.00	1.35
9	Breadstuffs:			
	Barley, Indian corn, oats, rye	do	.30	.0579
	Wheat:			
	Not shelled or split	do	.30	.0579
	Shelled and split	do	1.25	.241
	Flour, all kinds	do	1.25	.241
	Bread	do	1.25	.241
	Biscuits, without sugar	do	10.00	1.93

*Kilogram = 2 pounds. †Quintal = 110 pounds.

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
			Francs.	
10	Bricks:			
	Common and glazed	Quintal	1.50	$0.2895
	Not burnt	do	.10	.0193
11	Brooms and brushes:			
	Brooms of rice-straw	do	1.50	.2895
	brushes	do	2.00	.386
12	Candles:			
	Tallow	do	4.00	.772
	All other kinds	do	16.00	3.088
13	Carriages and horse-cars:			
	Carriages and sleds, 10 per cent. ad valorem			
	Horse-cars, 8 per cent. ad valorem.			
	Parts of wagons, carriages, sleds of all kinds are dutiable according to material and nature.			
14	Cars:			
	Railroad cars, 8 per cent. ad valorem.			
	Locomotives	do	4.00	.772
15	Chemicals:			
	Alum, arsenic acid, baryta, bone-black, chloride of potassium, chloride of lime, chloride of magnesium, chrome alum, iron maceration, litharge, vegetable acid, lime, extract of chestnut fluid, sulphuric magnesium, soda, sublimed sulphur, hydro-chlorate, sulphuric acid, argillaceous earth, vitriol (iron, copper, zinc) water glass.	do	.30	.0579
	Caustic potash, caustic soda, aniline, arsenious acid, benzoate, bitter-almond oil, lead sugar, oxide of lead, nitrate of lead, borax, carbonate acid, cashew, chlore-zinc, gallic acid, tannic acid, glucine, verdigris, pyroxylix spirit, potash, oxalic acid, naphthaline, natron salt, oleate, salicylic acid, crude, salammoniac, spirits of salammoniac, saltpeter, saltpeter acid, salt of wood sorrel, sulphuric ether, sulphuric arsenic, stearine, argillaceous earth of soda, Turkish red oil, zinc dust, tin salt.	do	1.00	.193
	Starch, crude and roasted	do	.60	.1158
	Pyrotechnical preparations	do	50.00	9.65
	Dynamite	do	40.00	7.72
	Matches	do	20.00	3.86
	German tinder	do	5.00	.965
	Wagon-grease	do	2.00	.386
	Colors:			
	Mineral and vegetable, crude	do	.20	.0386
	Ground in powder	do	.60	.1158
	Anotto orchilla, prepared; zaffer cochineal; indigo, &c.	do	4.00	.772
	Extracts of colors:			
	Alizarine; artificial alizarine, dry or in paste	do	3.00	.579
	Other extracts of colors, fluid or fast	do	7.00	1.35
	Pine soot, red lead	do	1.00	.193
	White lead, zinc white	do	3.00	.579
	Chrome yellow, chrome greens	do	3.50	.675
	Mineral blue, paris blue; colors prepared from coal tar.	do	7.00	1.35
	Colors in boxes, &c	do	16.00	3.088
	Varnish of all kinds	do	7.00	1.35
	Raw materials, vegetable and animal, for apothecary purposes, as berries, leafs, blossoms, fruits, &c.	do	3.00	.579
	Drugs from plant juice	do	10.00	1.93
	Mineral water, natural and artificial	do	3.00	.579
	Pharmaceutic preparations	do	40.00	7.72
	Arcanum and specialties for medical use	do	100.00	19.30
	Sirup for medical use	do	30.00	5.79
	Perfumeries	do	30.00	5.79
	Wash sponges	do	20.00	3.86
16	Clocks and watches:			
	Clocks:			
	Common, not faced in gold frames	do	16.00	3.088
	Other kinds than above mentioned	do	30.00	5.79
	Watches of all kinds	do	30.00	5.79
	Watch materials	do	16.00	3.088
	Musical boxes and clocks	do	30.00	5.79
17	Coal:			
	Brown coal	do	.02	.0038
	Wood coal	do	Free	
	Pit coal	do	.02	.0038

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
			Francs.	
18	Copper:			
	Pure hammered, rolled, in bars, sheets, pipes, and wire.	Quintal	3.00	$0.579
	Brass wares, bronze wares	do	16.00	3.088
	Bolts, nails, screws	do	10.00	1.93
	Smith wares	do	16.00	3.088
	Gilded or silver-plated, hammered, rolled	do	16.00	3.088
	Ore	do	Free	
	Pure old bell metal, cannon metal	do	1.00	.193
19	Cotton:			
	Raw	do	.30	.0579
	Wadding	do	4.00	.772
	Yarns:			
	Single, raw	do	6.00	1.158
	Twisted, bleached	do	8.00	1.544
	Twisted, colored	do	11.00	2.123
	Bobbinet, coiled or in small skeins, for retail	do	20.00	3.86
	Cloth, unbleached	do	8.00	1.544
	Net lace	do	4.00	.772
	Net lace with 38 threads to 5 millimeters	do	8.00	1.544
	Cloth of yarn:			
	No. 70 English or finer	do	14.00	2.70
	Over 38 threads to 5 millimeters	do	14.00	2.70
	Cloth, bleached, colored, printed	do	25.00	4.825
	Velvet, colored, stitched, net lace	do	30.00	5.79
	Covers, common:			
	Not sewed	do	4.00	.772
	With sewing work	do	30.00	5.79
	Laces, and lace-maker works	do	16.00	3.088
	Hosiery	do	25.00	4.825
	Embroidery and laces	do	60.00	11.58
20	Earthen, stone, and china ware:			
	Earthen ware:			
	Not burnt, tiles, bricks, pipes, plates	do	.10	.0193
	Fire-proof bricks	do	.60	11.58
	Glazed tiles, bricks	do	1.50	.289
	Glazed pipes, plates, &c., not painted	do	2.00	.386
	Potter work:			
	Glazed or not	do	2.00	.386
	Glazed, ground, painted	do	16.00	3.088
	China and other fine ware	do	16.00	3.088
21	Fertilizers:			
	Guano:			
	Open	do	.20	.0386
	Not open	do	Free	
	Manures	do	Free	
	Salt, open	do	.20	.0386
	Not open	do	Free	
	Other kinds	do	Free	
22	Fish:			
	Fresh	do	2.50	.482
	Dried, salted, smoked, pickled, in barrels:			
	Under 5 kilos weight	do	16.00	3.088
	Over 5 kilos weight	do	2.00	.386
23	Flax, hemp, and jute:			
	Flax, hemp, jute:			
	Raw and broken	do	.30	.0579
	Yarn:			
	Up to No. 10 raw	do	.60	.1158
	Over No. 10 raw	do	4.00	.772
	Twisted	do	7.00	1.35
	Colored	do	15.00	2.895
	Bobbined or in balls	do	24.00	4.632
	Packing cloth:			
	25 threads to 3 centimeters	do	1.50	.289
	With more than 25 and not over 40 warp threads	do	4.00	.772
	With more than 40 warp threads	do	16.00	3.088
	Texture, net lace, plain or stitched, raw, bleached colored, printed.	do	16.00	3.088
	Lace and lace-maker works	do	16.00	3.088
	Hosiery	do	16.00	3.088
	Embroidery and laces	do	30.00	5.79
	Rope-maker works:			
	Untwisted raw threads and cords	do	5.00	.965
	Ropes	do	3.00	.579
	Other rope-maker works, as packing threads, cords, twisted, bleached, colored, nets.	do	16.00	3.088
	Girths	do	15.00	2.895
	Hose seamless bags	do	15 00	2.895
	Rough mats	do	7.00	1.35
	Oil cloths for packing	do	4.00	.772
	Wax cloths for furniture	do	16.00	3.088

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
			Francs.	
24	Fruits:			
	Eatable berries, fresh	Quintal	3.00	$0.579
	Grapes, fresh	do	2.50	.482
	Chestnuts, fresh or dried	do	.30	.579
	Dried, with stones	do	1.50	.289
	Juice, without sugar and alcohol	do	20.00	3.86
	Grapes and currants	do	3.00	.579
	Others	do	3.00	.579
25	Furs:			
	Cloths and other finished wear, sewed	do	100.00	19.30
26	Glass:			
	Roofing, tiles, floor plates	do	7.00	1.35
	Window:			
	Ordinary	do	7.00	1.35
	Dim, glazed	do	25.00	4.825
	Colored	do	16.00	3.088
	Ware, globes for watch manufacture	do	1.50	.289
	Poles	do	1.50	.289
	Ordinary, colored for bottles	do	1.50	.289
	Half green	do	5.00	.965
	Ordinary colorless, not polished	do	8.00	1.544
	Dim, painted, gilded glass wares of all kinds	do	30.00	5.79
	Polished, colored, engraved	do	16.00	3.088
	Flux, enamel, pearls	do	4.00	.772
	Looking:			
	Not silvered, each kind	do	16.00	3.088
	Silvered, under 18 square decimeters, measured with frame.	do	16.00	3.088
	Over 18 square decimeters, measured with frame.	do	30.00	5.79
27	Glucose, or grape sugar	do	7.50	1.447
28	Glue:			
	Raw	do	.60	.1158
	Purified and fish glue	do	7.00	1.35
29	Gunpowder	do		
30	Hair:			
	Animal, not specially enumerated	do	.60	.1158
	Bristles	do	2.00	.386
	Horse and buffalo:			
	Uncleaned	do	1.00	.193
	Cleaned	do	7.00	1.35
	Human	do	50.00	9.65
	Animal's, for mats, horse blankets	do	10.00	1.93
	Horse, for manufacture	do	16.00	3.088
31	Hay	do	Free	
32	Hides and skins:			
	Raw, uncured	do	.00	[.1158]
	Tanned, prepared	do	8.00	1.544
33	Honey	do	8.00	1.544
34	Hops	do	4.00	.772
35	Ice	do	Free	
36	India-rubber:			
	Webbings	do	30.00	5.79
	Shoes:			
	Without sewing	do	16.00	3.088
	With sewing	do	30.00	5.79
	Webbings, mixed with cotton, wool, silk	do	30.00	5.79
	Pure or mixed, in balls	do	4.00	.772
	In hose and pipes	do	7.00	1.35
37	Iron and steel:			
	NOTE.—Steel and malleable cast iron same tariff as iron.			
	Iron:			
	Ore	do	Free	
	Cast iron in bars, loops	do	.10	.0193
	Hammered, rolled, bar	do	1.70	.328
	Rails, poles (round, square, flat), sheets, not enumerated hereafter.	do	.60	.1158
	Rails, weighing less than 15 kilos per meter	do	1.70	.328
	Pattern, not more than 6 millimeters in diameter	do	1.70	.328
	Round, under 7½ centimeters in diameter	do	1.70	.328
	Wire, in rings, raw, over 5 millimeters and under 11 millimeters in diameter.	do	1.30	.25
	Sheet, thinner than 3 millimeters, coated with lead, zinc, copper.	do	3.00	.579
	Wire, not more than 9 millimeters thick, raw, coated with lead, tin, zinc, copper.	do	4.00	.772
	NOTE.—Tin plates same tariff as sheet-iron of 25 centimeters breadth.			
	Articles of cast-iron:			
	Common, rough	do	2.50	.482
	Others	do	5.00	.965

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
			Francs.	
37	Iron and steel—Continued.			
	Articles of malleable cast-iron, steel	Quintal	.60	$0.1158
	Tin wire, pipes, rough	do	.60	.1158
	Tools, rough, unfinished, as:			
	Plowshares, axles, anvils, pipes, switch-frames, crossings (frogs).	do	3.00	.578
	Others common, raw, polished, coated with ground color.	do	7.00	1.35
	Fine, polished, painted, varnished, enameled	do	20.00	3.86
	Cutlery	do	40.00	7.72
	Arms of all kinds	do	50.00	9.65
	Arms, unfinished	do	10.00	1.93
38	Jewelry, gold and silver, real or mock	do	30.00	5.79
39	Lamps			
40	Lead:			
	Ore	do	Free	
	In bars, blocks, pigs, plates	do	.30	.0579
	Sheets, pipes, wire, balls, shot, old printing letters	do	1.50	.289
	Articles:			
	Raw, new printing letters	do	7.00	1.35
	Polished, painted, varnished	do	16.00	3.088
41	Leather:			
	Of all kinds	do	8.00	1.544
	Articles (except shoes) finished	do	30.00	5.79
	Articles (except shoes) unfinished	do	30.00	5.79
	Shoes of all kinds	do	30.00	5.79
	Shoe materials	do	30.00	5.79
	Gloves	do	30.00	5.79
42	Lime and cement:			
	Lime:			
	Chloride, citrate, sulphate	do	.30	.0579
	Hydraulic	do	.20	.0386
	Fat and plaster paris	do	.10	.0193
	Cement:			
	Roman	do	.50	.0965
	Portland	do	.70	.135
	Works of, as bricks, tiles, pipes:			
	Rough, not burnt	do	.15	.0289
	Colored, polished	do	1.50	.289
43	Malt liquors:			
	Malt	do	1.20	.2316
	Extract and beer:			
	In barrels	do	3.50	.675
	In bottles	do	10.00	1.93
	Yeast	do	3.00	.579
44	Naval stores:			
	Rosin:			
	Earth of all kinds	do	.30	.0579
	Other, raw	do	.20	.0386
	Purified	do	1.50	.289
	Tar	do	.20	.0386
	Turpentine and pitch	do	.10	.0386
45	Oil-cake and meal	do	Free	
47	Oils:			
	Ethereal, in wholesale packing	do	40.00	7.72
	Bitter almond, artificial	do	1.00	.193
	Brown coal-tar oil	do	.30	.0579
	Mineral and tar	do	1.25	.241
	Olive, in barrels	do	1.00	.193
	Sweet, in bottles	do	12.00	2.316
	Others not for medical use	do	1.00	.193
48	Paraffine and wax:			
	Wax	do	1.50	.289
	Of plants	do	1.00	.193
	Works of all kinds	do	16.00	3.088
	Paraffine	do	1.00	.193
49	Paints. (See 15, Chemicals.)			
50	Paper:			
	Pulp:			
	Wet	do	.00	.1158
	Dried	do	1.50	.289
	Packing, printing, blotting	do	3.00	.579
	Glass, rust, emery	do	2.50	.675
	Writing, printing, glued and unglued, silk paper, single color.	do	7.00	1.35
	More than one color, gold and silver paper, hanging-paper.	do	16.00	3.088
	Labels, lithograph, tickets, &c	do	30.00	5.79

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
50	Paper—Continued.			
	Pasteboard:		*Francs.*	
	Common grey	Quintal	3.00	$0.579
	White	do	4.00	.772
	Covered with paper	do	10.00	1.93
	Book-binder works, play-cards	do	80.00	15.48
51	Plated ware	do		
52	Provisions:			
	Meat:			
	Fresh	do	2.00	.386
	Salted, smoked	do	4.00	.776
	Lard	do	1.50	.289
	Butter	do	3.00	.579
	Cheese	do	4.00	.772
53	Quicksilver	do	3.00	.579
54	Seeds:			
	Oil	do	.30	.0579
	For pharmaceutical purpose and others	do	3.00	.579
55	Soap:			
	All kinds	do		
	Ordinary	do	1.50	.289
	Perfumed	do	1.50	.289
56	Spirits:			
	Alcohol, liquor, and spirit-beverages in barrels, for each degree of pure alcohol.	do	.20	.0386
	Pure in bottles	do	16.00	3.088
57	Starch	do	.60	.1158
	Not enumerated	do	2.00	.386
58	Sugar:			
	Refined, remains	do	8.50	1.64
	Powder	do	10.00	1.93
	Cut	do	10.00	1.93
	In blocks	do	8.50	1.64
	Crystal	do	7.50	1.447
	Malt	do	7.50	1.447
	Molasses, not pure	do	2.00	.386
	Raw	do	7.50	1.447
	Sirup:			
	Refined	do	7.00	1.35
	Not refined	do	2.00	.386
	Grape	do	7.50	1.447
59	Tin:			
	Bars, blocks, plates	do	1.50	.289
	Pure, hammered, rolled	do	3.00	.579
	Ware:			
	Rough	do	7.00	1.35
	Polished	do	16.00	3.088
60	Tobacco:			
	Leaf, stems, carrot, unmanufactured	do	25.00	4.825
	Snuff	do	35.00	6.755
	Smoking and chewing	do	50.00	9.65
	Cigars and cigarettes	do	100.00	19.30
61	Vegetables:			
	Potatoes	do	Free	
	Others, salted or dried, open	do	4.00	.772
	Preserved	do	7.00	1.35
	Spices of all kinds	do	15.00	2.89
	Coffee			
	Green	do	3.50	.675
	Burnt	do	4.50	.868
	Soup	do	20.00	3.86
62	Wood:			
	Fire	do	Free	
	Lumber:			
	Rough, or hewed with ax	do	.05	.0096
	Sawed and shingles	do	.40	.077
	Hewed ready for building	do	.60	.1158
	Ebony:			
	Rough	do	.10	.0193
	Sawed	do	.50	.0965
	Inlaid	do	4.00	.772
	Cork:			
	Rough	do	1.00	.193
	Manufactured	do	1.00	.193
	For packing purposes	do	.50	.0965
	Articles:			
	Unfinished	do	2.00	.386
	Finished, of common wood	do	4.00	.772

Swiss customs duties—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
			Francs.	
62	Wood—Continued.			
	Cooper works, with iron or brass joiner articles	Quintal	15.00	$2.89
	Joiner articles, furniture, common	do	16.00	3.088
	Polished, upholstered	do	16.00	3.088
	Frames, gilded	do	30.00	5.79
	Ware and turned articles, painted and polished	do	16.00	3.088
	Rods for baskets, peeled and not peeled	do	.05	.0096
	Fine baskets	do	16.00	3.088
	Rough baskets	do	8.00	1.544
	Rough baskets of unpeeled rods	do	2.00	.386
63	Wool:			
	Raw	do	.30	.0579
	Washed colored	do	.60	.1158
	Yarn:			
	Raw, single or double	do	5.00	.965
	Bleached, three times or more twisted	do	8.00	1.544
	Colored	do	9.00	1.737
	Bobbinet, (according to nature)	do		
	Cloth ends	do	4.00	.772
	Webbings:			
	Raw	do	12.00	2.316
	Bleached colored, printed	do	25.00	4.825
	Blankets of all kinds:			
	Not sewed	do	30.00	5.79
	Sewed	do	16.00	3.088
	Laces	do	30.00	5.79
	Lace-maker goods	do	25.00	4.825
	Hosiery	do	25.00	4.825
	Embroidery	do	30.00	5.79
	Shawls	do	30.00	5.79
	Carpets:			
	Ordinary, not sewed	do	12.00	2.316
	Others	do	30.00	5.79
	Shoes from cloth ends	do	16.00	3.088
	Felt stuffs	do	16.00	3.088
	Felt articles:			
	Not finished, raw	do	7.00	1.35
	Colored, printed	do	16.00	3.088
	Felt hats	do	30.00	5.79
	Felt hats, unfinished	do	7.00	1.35
64	Zinc:			
	Bars, blocks, plates	do	.40	.0772
	Rolled, drawn, tin, wire	do	1.50	.289
	Wares:			
	Rough	do	7.00	1.35
	Polished, painted, varnished	do	16.00	3.088

The full tariff of Switzerland was printed in Consular Reports No. 46, p. 303.

TURKEY.

Provisional and new tariffs of Turkey.

[Prepared by Consul-General Heap.]

Number.	Articles.	New tariff.*			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
			Piasters.		
1	Agricultural implements:				
	All coarse wares in wrought or cast-iron, steel, or sheet-iron used in combination with wood, but neither polished nor finely varnished.	100 kilos ..	55.00	220 pounds	$2.42
	Carts, trucks, wheelbarrows, and vehicles for agricultural purposes, in rough wood, &c.	....do	25.00	....do	1.10
2	Animals:				
	Bulls and buffaloes	Head	104.00	Head	4.576
	Cows and buffalo cows, young bullocks, steers, heifers, and buffalo heifers.	....do	55.00	....do	2.42
	Calves weighing over 60 kilos	....do	10.00	....do	44.00
	Hogs	....do	25.00	....do	1.10
	Horses, stallions, mares, geldings, colts	....do	200.00	.. do	8.80
	Mules	...do	60.00	....do	2.64
	Oxen	....do	80.00	....do	3.52
	Sheep	...do	7.00	....do	.308
	All others not specified	....do	5.00	....do	.22
3	Art works:				
	Engravings, lithographs, and colored prints, photographs.	100 kilos ..	150.00	220 pounds	6.60
	Engraved plates on metal or wood, stereotype plates.	....do	240.00	....do	10.56
	Lithographic stones, covered with designs or engravings.	....do	30.00	....do	1.32
	Paintings and drawings by hand	1 kilo	20.00	2.2 pounds	.88
	Statues, busts, figures of animals:				
	Stone	100 kilos ..	150.00	220 pounds	6.60
	Metal				
	Weighing over 5 kilos (10 pounds) each	....do	250.00	....do	11.00
4	Barks and extracts:				
	Woods and barks used in tanning:				
	Ground	....do	4.00	....do	.176
	Not ground	....do	3.00	....do	.132
	Galls, valonia, dividivi, sumach, and other tannins.	....do	12.00	....do	.528
	Catechu	....do	25.00	....do	1.10
	Other extracts of tannin	....do	22.00	....do	.968
5	Blacking, including receptacles	....do	20.00	....do	.88
6	Bones, hoofs, and horns, &c	....do	20.00	....do	.88
7	Books, maps, engravings, &c.:				
	Printed matter in any language, maps, and printed music, even bound in books (exempt).				
	Engravings	....do	150.00	... do	6.60
8	Brass, and manufacture of:				
	Hammered and rolled, in bars, sheets or wire	....do	61.00	.. do	2.684
	Ingots and scrap	....do	32.00	.. do	1.408
	Machinery of which the principal material is composed of.	....do	96.00	.. do	4.224
	Common unvarnished wares in brass-work, in sheet-brass, &c.	....do	1.80	.. do	6.92
	Other brass ware, even when combined with other materials.	....do	2.70	...do	11.88
9	Breadstuffs:				
	Barley	....do	4.55	. do	.187
	Bread	....do	12.00	... do	.528
	Biscuits, ship	....do	25.00	.. do	1.10
	Indian corn	....do	4.25	do	.187

* Provisional tariff, 8 per cent. ad valorem.

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
9	Breadstuffs—Continued.		*Piasters.*		
	Oats	100 kilos	4.25	220 pounds	$0.187
	Rye	do	4.25	do	.187
	Wheat	do	6.30	do	.2772
	Flour, wheaten	do	16.00	do	.704
	Flour, oaten, barley, maize, and others not specified.	do	11.00	do	.404
10	Bricks:				
	Bath-bricks	do	4.00	do	.176
	Fire-bricks of all kinds	do	3.20	do	.1408
	Glazed	do	4.00	do	.176
	Tubular, unglazed	do	1.60	do	.704
	Unglazed	do	1.00	220 pounds	.44
11	Brooms and brushes:				
	Ordinary, combined with wood or iron, without polish or varnish.	do	48.00	do	2.112
	In pigs' bristles	do	168.00	do	7.392
	Fine brooms	do	300.00	do	13.20
12	Candles:				
	Stearine, paraffine, kerosene	do	112.00	do	4.928
	Tallow	do	60.00	do	.264
	Wax and spermaceti	do	150.00	do	6.60
13	Carriages and horse-cars:				
	Covered carriages with springs, padded, such as omnibuses, landaus, and broughams.	Each	18.75	Each	82.50
	Others, such as phaetons, gigs, &c	do	12.00	do	52.80
	NOTE.—Carriages falling under these two heads which are imported unfinished, *i. e.* neither painted, varnished, nor padded, pay 20 per cent. less.				
	Vans and wagons on springs	do	3.75	do	16.50
	Tram (horse) cars	do	9.60	do	42.24
14	Cars (railroad, steam):				
	Padded, such as carriages of first and second classes.	do	50.00	do	220.
	Not padded, such as carriages of third class	do	3,500.00	do	154.00
	Goods-trucks and baggage vans covered	do	1,500.00	do	66.00
	Goods-trucks and baggage-vans open	do	1,100.00	do	48.40
15	Chemicals:				
	Alum:				
	Crude	100 kilos	6.00	220 pounds	.264
	Refined and calcined	do	24.00	do	1.056
	Bicarbonate of soda	do	12.00	do	.528
	Carbonate of soda, crude, refined or crystallized	do	5.00	do	.22
	Calcined soda and carbonate of potassium	do	7.00	do	.308
	Caustic soda and potassa, dry or liquid	do	10.00	do	.44
	Chloride of lime or of potassium and other bleaching salts.	do	6.00	do	.264
	Citric acid	do	200.00	do	8.80
	Common salt (rock salt and sea salt) (prohibited).				
	Copperas:				
	Blue—sulphate of copper	do	16.00	do	.704
	Green—sulphate of iron	do	4.00	do	.176
	White—sulphate of zinc	do	16.00	do	.704
	Cream of tartar	do	100.00	do	4.40
	Liquid ammonia	do	20.00	do	.88
	Muriatic or hydrochloric acid	do	5.00	do	.22
	Nitric acid	do	20.00	do	.88
	Phenic acid, liquid	do	16.00	do	.704
	Sal ammoniac	do	36.00	do	1.584
	Saltpeter (nitrate of potassum) (prohibited)				
	Silicate of potash or liquid soda	do	12.00	do	.528
	Sulphate and other salts of quinine and morphine.	Per kilo	95.00	2½ pounds	4.18
	Sulphate of soda and of magnesia	100 kilos	4.00	220 pounds	.176
	Sulphuric acid	do	6.00	do	.264
	Tartaric acid	do	144.00	do	6.336
	All other salts, acids, and oxides not otherwise specified.	do	45.00	do	1.98
	Sulphur in lumps, rolls, or ground flowers of sulphur.	do	5.00	do	.22
	Phosphorus	do	320.00	do	14.08

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
			Piasters.		
16	Clocks and watches:				
	Clocks of all kinds, pedestal or hanging	100 kilos	270.00	220 pounds	$11.88
	Clock-works, put together or in pieces, complete or incomplete.	....do	450.00	....do	19.88
	Watches:				
	Gold	Each	15.00	Each	.66
	Silver	....do	5.00	....do	.22
	Watch-works, put together or in pieces, complete or incomplete.	Per kilo	80.00	2¼ pounds	3.52
17	Coal:				
	Coal	....do	.84	....do	.369
	Charcoal	....do	2.80	....do	.1232
	Coke	....do	1.60	....do	.704
	Lignites and other mineral fuel	....do	.55	....do	.242
	Peat and turf	....do	.45	....do	.198
18	Copper:				
	Ore	....do	8.00	....do	.352
	Ingots	....do	50.00	....do	.220
	Bars and sheets	....do	62.00	....do	2.728
19	Cotton:				
	Cotton, raw, carded, dyed or bleached	....do	40.00	....do	1.76
	Clothing	....do	600.00	....do	26.40
	Curtains, with embroideries	....do	1,000.00	....do	44.00
	Fabrics:				
	Unbleached, such as T-cloths, drills, shirtings, &c.	....do	125.00	....do	5.50
	Bleached, such as Tanfibs (*siva spoors*), of all qualities.	....do	100.00	....do	4.40
	Bleached, such as mulls, &c	....do	225.00	....do	9.90
	Dyed or printed, such as gauze, tulle, tarletans, &c.	....do	550.00	....do	24.20
	Woven, or dyed, or printed yarns	....do	216.00	....do	9.504
	Combined with india-rubber thread	....do	825.00	....do	36.30
	Plain or figured, such as linings, cretonne, damaska, plain cloths, calicos.	....do	275.00	....do	12.50
	Gauze, tulle, victoria lawn	....do	375.00	....do	16.50
	Embroidery, hand or machine made, or with application, such as curtains, bands, insertions, &c.	....do	1,000.00	....do	44.00
	Hosiery:	....do	240.00	....do	10.56
	Hosiery, combined with india-rubber threads	....do	825.00	....do	36.30
	Lace:	....do	1,700.00	....do	74.80
	Mixtures, cotton and wool, former predominating in weight.	....do	120.00	....do	5.28
	Seed	....do	8.00	....do	.352
	Threads:				
	Covered with real gold or silver	....do	15.00	....do	.66
	Covered with imitation gold or silver	Per kilo	8.00	....do	.352
	Trimmings and button ware, covered with cotton	....do	380.00	....do	16.72
	Twist:				
	Bleached	100 kilos	84.00	....do	3.696
	Unbleached	....do	75.00	....do	3.30
	Red of all qualities	....do	116.00	....do	5.104
	Other colors	....do	97.00	....do	4.268
	Wadding	....do	8.00	....do	.352
	Yarns or twists, single:				
	Of any number, adapted for retail trade, i. e., done up in balls or skeins, on reels or cards, &c., bleached, unbleached, or colored, or wooden reels, reels included.	....do	128.00	....do	5.632
	All others	....do	200.00	....do	8.80
	Yarns, single:				
	Unbleached	....do	68.00	....do	2.992
	Bleached	....do	76.00	....do	3.344
	Red, of all qualities	....do	105.00	....do	4.62
	Other colors	....do	88.00	....do	3.872
20	Earthen, stone, and china ware:				
	Earthenware:				
	Stoves and parts of stoves, decorative tiles for wall facings or pavements:				
	In one color only	....do	30.00	....do	1.32
	In two or more colors, gilded, silvered, or painted.	....do	60.00	....do	2.64
	Pots, brown-ware, and other coarse pottery	....do	12.00	....do	.528

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
20	Earthen, stone, and china ware—Continued.				
	Earthenware—Continued..		*Piasters.*		
	Bricks and paving tiles, unglazed	100 kilos ..	1.00	220 lbs....	$0.44
	Tubular bricks, and roofing tiles of all kinds, unglazed.	....do	1.60	....do	.704
	Bricks and paving and roofing tiles, glazed, and bath-bricks.	....do	4.00	....do	.176
	Fire bricks of all kinds	....do	3.20	....do	.1408
	Piping and tubing	....do	2.80	....do	.1232
	Clay pipes and bowls	....do	45.00	....do	1.98
	Crucibles	....do	24.00	....do	1.56
	Stoneware:				
	Counters and marbles	....do	37.50	....do	1.65
	Lithographic stones, unpolished	....do	8.00	....do	.352
	Coarse, unpolished objects, in cement or stone, stone-cutters' work, such as door and window jambs, pillars and portions of pillars, conduits and tubes, troughs and ornamented building-stonework.	....do	15.00	....do	.66
	Tablets of slate, in wooden frames	....do	15.00	....do	.66
	Touchstones, grindstones, and whetstones, of all kinds, not combined with other substances.	....do	15.00	....do	.66
	Slabs and tablets of slate, white or colored, marble or other stone, polished.	....do	22.00	....do	.968
	Slabs of unpolished marbles, of less than 16 centimeters in thickness.	....do	12.00	....do	.528
	Slabs of Malta stone, of less than 16 centimeters in thickness.	....do	1,50	do	.066
	Millstones, iron-bound or otherwise	....do	7.00	....do	.308
	Fine stone work, such as carved chimney-pieces, statues, busts, figures of animals, and ornamental articles, paper-weights, candle-sticks, bowls, ink-stands, table or bracket ornaments, as well as objects of stone combined with metal and other substances.	....do	150.00	....do	6.60
	Chinaware:				
	Table services:				
	One color only	....do	30.00	... do	1.32
	Two or more colors, gilded, silvered or painted.	....do	60.00	....do	2.64
	White	....do	90.00	....do	3.96
	Colored, painted, or gilt	....do	150.00	....do	6.60
	China goods combined with other substances.	....do	150.00	....do	6.60
21	Fertilizers:				
	Guano	....do	10.00	....do	.44
	Other fertilizers	....do	5.00	....do	.22
22	Fish:				
	Fresh, alive, or dead	....do	60.00	....do	2.64
	Salted herrings	....do	25.00	....do	1.10
	Sardines, in barrels	....do	65.00	....do	2.86
	Other salt fish, in barrels	....do	45.00	....do	1.98
	Sturgeons and sterlet, dried or smoked, and the edible sinew.	....do	300.00	....do	13.20
	Stock-fish, and other dried fish	....do	30.00	....do	1.32
	Other smoked fish	....do	65.00	....do	2.86
	Bottargo (dried fish-roe)	....do	600.00	....do	26.40
	Caviar:				
	Black	....do	400.00	....do	17.60
	Red (tarama)	....do	24.00	....do	1.056
	Red (dil)	....do	30.00	....do	1.32
	Oysters:				
	Fresh	....do	60.00	....do	2.64
	Pickled	....do	225.00	....do	9.90
	Mussels, edible snails, and other shell-fish	...do	100.00	....do	4.40
	Lobsters, and other crustaceæ	....do	150.00	....do	6.60
	Turtles, alive or dead	....do	180.00	....do	7.92
	All provisions, hermetically closed, whether in bottles, jars, or tin boxes, &c., excepting pickles in bottles.	....do	120.00	....do	5.28

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
23	Flax, hemp, jute:		*Piasters.*		
	Flax, hemp, jute, albacca (Manila hemp), cocoanut fiber, and all other filiaments except cotton.	100 kilos	20.00	220 pounds	$0.88
	Coarse coverlets and carpets of jute, Manila hemp, cocoanut and similar fibers.	....do	90.00	....do	3.96
	Coarse jute yarns	....do	25.00	....do	1.10
	Other flax, hempen, and jute yarns	....do	40.00	....do	1.76
	Single flax, hempen, and jute yarns, boiled or bleached.	....do	72.00	....do	3.168
	Twist flax, hempen, and jute yarns:				
	Unbleached	....do	72.00	....do	3.168
	Boiled or dyed	....do	120.00	....do	5.28
	Ropers' work:				
	Cables, ropes, twines	....do	36.00	....do	1.584
	Hunting, fishing, and other nets of hemp, &c.	....do	200.00	....do	8.80
	All other roper's work, such as girths, hose, buckets, &c.	....do	72.00	....do	3.168
	Hempen and linen fabrics:				
	Cambric, lawn, handkerchiefs, of close materials, gauze, and tulle.	....do	1,200.00	....do	52.80
	Grey packing cloth, striped or plain, and sacks.	....do	40.00	....do	1.76
	Lace of linen thread	....do	1,700.00	....do	74.80
	Flaxen, hempen, and other vegetable substances (cotton excepted), embroidered or with application.	....do	1,200.00	....do	52.80
	Plain cloth ticking and drills:				
	Unbleached	....do	250.00	....do	11.00
	Bleached, dyed, or printed; duck and other materials for clothing or upholstery, even dyed, printed, or woven with colored threads; damasks and twills of all kinds; handkerchiefs, table linen, and towels, finished or unfinished; ribbons and woven borderings.	....do	400.00	....do	17.60
	Sail and tent cloth	....do	72.00	....do	3.168
	Hosiery, of all kinds	....do	60.00	....do	26.40
	Trimmings, even with metal threads, such as fringes, borderings, bells and curtain ropes, twills, chenilles, trimmings, and button ware, partially made of wood, horn, glass, india-rubber, &c., covered with linen hemp, &c. (excepting cotton).	....do	800.00	....do	16.72
	Linen underclothing	....do	525.00	....do	23.10
	Articles of mens', women's, and childrens' wearing apparel and made-up goods, not specified.	....do	600.00	....do	26.40
	Fabrics in linen combined with india-rubber threads, such as elastic sides of boots, &c.	....do	625.00	....do	27.50
	Hosiery combined with india-rubber threads	....do	900.00	....do	39.60
24	Fruits:				
	Fresh grapes, oranges, citrons, green olives	....do	18.75	....do	.825
	Apples, pears, and other fresh fruits, not specified	....do	37.50	....do	1.65
	Figs	....do	30.00	....do	1.32
	Almonds and pistachios	....do	90.00	....do	3.96
	Walnuts, filberts, pumpkin seeds	....do	22.50	....do	.902
	Carobs (dried pod of *Ceratonia siliqua*)	....do	9.00	....do	.396
	Raisins, dates, and other dried fruits, not specified	....do	45.00	....do	1.98
25	Furs:				
	Prepared, cured, bleached, or dyed skins, viz:				
	Astrachan lamb-skins, white, black, and gray	....do	900.00	....do	39.60
	Angora and other goat skins: all other lamb and sheep skins.	....do	80.00	....do	3.52
	Other skins, raw, cured or dyed, whole or in pieces, sewed together, but not made up into articles of wearing apparel, viz:				
	Cat, wild and domestic	....do	450.00	....do	19.80
	Fox	....do	400.00	....do	17.60
	Hare, rabbit, and polecat	....do	250.00	....do	11.00

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
25	Furs—Continued.				
	Other skins, raw, cured, or dyed—Continued.		*Piasters.*		
	Lynx	100 kilos	700.00	220 pounds	$30.80
	Lynx (seeser)	do	500.00	do	22.00
	Sable, ermine, chinchilla, and blue fox	do	3,000.00	do	132.00
	Sable, marten	do	1,000.00	do	44.00
	Weasel, marten, minever, and common squirrel.	do	1,800.00	do	79.20
	Wolf, tiger, bear, lion, panther	do	250.00	do	11.00
	Not specified	do	700.00	do	30.80
	Sheep-skin overcoats, completed, but not covered with cloth.	do	300.00	do	13.20
	Trimmings, caps, cuffs, and other fur goods, &c.	do	1,250.00	do	55.00
26	Glass:				
	Block, broken, and pulverized	do	2.100	do	.86
	Common, holloware, natural color, even if pressed or splintered, such as demi-johns, bottles, &c.	do	1.200	do	.528
	Crystals and glassware:				
	Polished, frosted, or cut, but not colored	do	105.00	do	4.62
	Colored, painted, or gilt, even if polished, pressed or cut.	do	150.00	do	6.60
	Of all kinds, in combination with other substances, such as lamps, lusters, chandeliers, leather covered goods in glass, artificial flowers, &c.	do	180.00	do	7.92
	Holloware, white or clouded, smooth or pressed, but neither polished, &c., such as decanters, drinking vessels, lamp globes, &c.	do	52.50	do	2.31
	Lamp chimneys	do	18.00	do	.792
	Mirrors and plate glass:				
	Unpolished, cast even in relief	do	18.00	do	.792
	Polished or silvered, even if beveled or bent.	do	108.00	do	4.752
	Pendents for lusters, glass buttons, &c., vitrifications.	do	132.00	do	5.808
	Tiles	do	18.00	do	.792
	Window glass, white or semi-white:				
	Single or double	do	18.00	do	.792
	Colored, fluted, or stained	do	60.00	do	2.64
	Trimmings combined with glass	do	380.00	do	16.72
27	Glucose	do	12.00	do	.528
28	Glue	do	12.00	do	.528
29	Gunpowder (prohibited).				
30	Hair:				
	Angora and other goats' hair, camels' hair, viz:				
	Combed or carded	do	80.00	do	3.52
	Dyed	do	100.00	do	4.40
	Raw, washed or unwashed	do	36.00	do	1.584
	Animals' hair (wool excepted), not specified	do	36.00	do	1.584
	Cow hair, and other coarse hairs of all kinds	do	64.00	do	2.816
	Horse hair	do	200.00	do	8.80
	Human hair	do	2,400.00	do	105.60
	Manufactured hair (barbers' work)	Per kilo	75.00	2.2 lbs	3.30
31	Hay, and other dried fodder	100 kilos	2 50	220 lbs	.11
32	Hides and skins:				
	Hides, raw, fresh, or salted, with or without hair.	do	40.00	do	1.76
	Skins: Skins of sheep, goats, &c	do	450.00	do	19.80
33	Honey	do	60.00	do	2.64
34	Hops	do	110.00	do	4.84
35	Ice	do	1.00	do	.044
36	India-rubber:				
	Dissolved or liquid	do	200.00	do	8.80
	Gutta-percha	do	200.00	do	8.80
	Hardened, in sheets, bars, or pipes	do	240.00	do	10.56
	In the mass, raw or refined	do	160.00	do	7.04
	Manufactures:				
	Caoutchouc threads	do	480.00	do	21.12
	Covered with silk threads	do	800.00	do	35.20
	Covered with cotton, woolen, linen, hempen threads.	do	600.00	do	26.40

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
36	India-rubber—Continued.				
	Manufactures—Continued.		*Piasters.*		
	Common articles in india-rubber	100 kilos	750.00	220 lbs	$33.00
	Fabrics in cotton, linen, &c., combined with india-rubber.	do	825.00	do	36.30
	Hosiery in cotton, linen, &c., with india-rubber threads.	do	900.00	do	39.60
37	Iron and steel:				
	Iron ores	do	.80	do	.0352
	Unwrought, old iron and steel scraps, filings, and shavings.	do	2.50	do	.11
	Cast iron, of all kinds	do	2.50	do	.11
	Pigs, and blooms	do	4.80	do	.2112
	Steel, raw, cast, filled, or bar	do	12.00	do	.528
	Partially wrought:				
	Iron bars, round or four-sided, nail-rods, angle iron E, T, I, iron, &c., and iron wire.	do	7.60	do	.3344
	Iron or steel rails	do	7.60	do	.3344
	Iron wire, coated with copper, tin, zinc, or lead.	do	10.00	do	.44
	Steel wire	do	20.00	do	.88
	Iron for plowshares, plate or sheet iron, iron hoops, and flat bars for hooping.	do	10.00	do	.44
	Plate or sheet steel:				
	Wrought	do	16.00	do	.704
	Polished	do	24.00	do	1.056
	Sheet and plate steel and iron, varnished or coated with copper, zinc, lead, or nickel.	do	16.00	do	.704
	Very coarse wrought or cast iron work:				
	Anchors and chain cables	do	16.00	do	.704
	Wire cables	do	24.00	do	1.056
	Pipes and tubes	do	24.00	do	1.056
	Very coarse articles in cast iron	do	12.00	do	.528
	Coarse iron and steel wares:				
	Wire and other nails, wire tacks	do	11.00	do	.484
	Files, in straw, screws, ribs and mountings of umbrellas.	do	36.00		1.584
	Telegraph cables	do	32.00		1.408
	Safes	do	90.00		3.96
	Bedsteads	do	30.00		1.32
	Kitchen utensils, enameled	do	120.00		5.28
	All coarse wares in wrought or cast iron, steel, sheet iron, iron and steel wire, not specified.	do	55.00		2.42
	Fine iron and steel ware:				
	Fine cutlery, not silver plated nor gilt, even made up with tortoise shell, ivory, mother-of-pearl, &c.	do	325.00		14.30
	Knitting needles and hairpins	do	45.00		1.98
	Common metal pins	do	150.00		6.60
	Crotchet, sewing, packing, and sailmakers' needles, thimbles, buttons, and stay-busks.	do	200.00		8.80
	Wire gauze	do	85.00		3.74
	Steel pens, beads, ornaments of apparel, hand and house bells, clock and watch springs, &c.	do	3.40		14.96
38	Jewelry:				
	Articles in pure gold, platinum, or silver, combined with diamonds, pearls, coral, or other fine or precious stones.	Per kilo	200.00	2.2 lbs	8.80
	Articles in coral	do	200.00	do	8.80
	Coral unmounted	do	50.00		2.20
	Precious stones:				
	Diamonds, emeralds, opals, rubies, sapphires.	Gram	30.00	15.432 grs.	1.32
	Topaz, turquoise, and others not named	do	2.00	do	.88
	Pearls unmounted	do	3.00	do	.132
39	Lamps, crystal or glass	100 kilos	180.00	220 lbs	7.92
40	Lead:				
	Ore	do	8.00	do	.352
	Pig, bar, and scrap lead	do	10.50	do	.462
	In sheets and lead wire	do	18.00	do	.792

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
40	Lead—Continued.				
	Manufactures:		*Piasters.*		
	Printing type	100 kilos	130.00	220 lbs	$5.72
	Common lead ware, not polished or varnished.	do	.20	do	.88
	Fine or varnished wares	do	135.00	do	5.94
	Fine wares, even in combination with iron or wood, neither polished nor varnished.	do	67.00	do	2.948
41	Leather:				
	Sole and similar tanned, but uncurried leather	do	140.00	do	6.16
	Curried	do	190.00	do	8.36
	Calf	do	270.00	do	11.88
	Varnished or japanned	do	500.00	do	22.00
	Imitation sole leather	do	20.00	do	.88
	Manufactures:				
	Articles in morocco leather, Brussels or Denmark skins, chamois or tanned skins, tinted or japanned leathers or in parchment, viz:				
	Gloves	do	4,125.00	do	181.50
	Boots and shoes	do	1,050.00	do	46.20
	Fancy articles, instrument and other small cases, tailors' measures, traveling bags, nargileh tubes, small boxes, &c.	do	750.00	do	33.00
	Trunks	do	165.00	do	7.26
	Tents	do	240.00	do	10.56
	Shoemakers', saddlers', harness and trunk makers' work, and in general all articles in tanned, simply reddened or blacked leather.	do	562.00	do	24.728
42	Lime and cement:				
	Lime, unburnt, quick, burnt, or slaked; hydraulic lime.	100 kilos	1.00	220 lbs	.044
	Gypsum, unburnt, burnt, or plaster of Paris	do	2.00	do	.088
	Cement, raw, burnt, or ground; and marble powder.	do	2.50	do	.11
	Unworked chalk and other earths	do	1.00	do	.044
43	Malt liquors:				
	Beer:				
	In bottles	do	40.00	do	1.76
	In casks	do	28.00	do	1.232
44	Medical instruments	do	320.00	do	14.08
45	Naval stores:				
	Rosin	do	8.00	do	.352
	Tar	do	8.00	do	.352
	Turpentine and pitch	do	8.00	do	.352
46	Oil cake and meal				
47	Oils:				
	Animal	100 kilos	32.00	220 lbs	1.408
	Mineral	do	17.00	do	.748
	Vegetable	do	32.00	do	1.408
48	Paraffine and wax:				
	Paraffine	do	72.00	do	3.168
	Wax	do	120.00	do	5.28
49	Paints:				
	White lead, red lead, litharge, and zinc white	do	18.00	do	.792
	Oil paints, &c., for trade use, in vessels or tin boxes.	do	36.00	do	1.584
	Fine colors for artists' use, Chinese ink, and boxes of colors, &c.	do	80.00	do	3.52
50	Paper:				
	Straw paper	do	8.50	do	.374
	Packing, blotting, and filtering papers	do	16.00	do	.704
	Slate paper	do	72.00	do	3.168
	Fly and medicated paper	do	80.00	do	3.52
	Printing and colored paper for placards	do	22.00	do	.968
	Tissue paper in sheets	do	180.00	do	7.92
	Tissue paper in sheets, tinted	do	48.00	do	2.112
	Note and letter, plain or ruled	do	36.00	do	1.584
	Drawing paper, card-board	do	56.00	do	2.464
	Lithographed or printed for account books, &c., printed forms of accounts, tickets, &c.	do	120.00	do	5.28

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.*			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
50	Paper—Continued.		*Piasters.*		
	Cigarette paper in sheets	100 kilos	160.00	220 lbs.	$7.04
	Wall paper	do	90.00	do	3.96
	Gilt, silvered, watered, and Morocco papers	do	108.00	do	4.752
	Parchment paper	do	88.00	do	3.872
	Board made in imitation of leather	do	38.00	do	1.672
	Other card-boards	do	16.00	do	.704
	Other tinted or colored papers	do	66.00	do	2.904
	Manufactures:				
	Board for roofing (roofing felt)	do	12.00	do	.528
	Envelopes and note-books	do	66.00	do	2.904
	Account and other office books and letter copy books.	do	108.00	do	4.752
	Cigarette papers bound in small books	do	200.00	do	8.80
	Playing-cards	do	460.00	do	20.24
	Piping and tubing in asphalted card-board	do	48.00	do	2.112
	All articles in paper, card-board, papier-maché, stationery, pasteboard, and other similar boards, not specially mentioned.	do	160.00	do	7.04
51	Plated ware: Articles wholly or partially composed of common metals, gilt, or silver plated, or varnished in imitation of gold or silver.	Per kilo	6.60	Per 2.2 lbs	.2904
52	Provisions:				
	Meats:				
	Fresh	100 kilos	50.00	220 lbs.	2.20
	Salt	do	50.00	do	2.20
	Dead poultry and game	do	150.00	do	6.60
	Hams, sausages, ox tongues, and preserved meats, hermetically closed.	do	150.00	do	6.60
	Bacon and other dried and smoked meats	do	120.00	do	5.28
	Extracts of meat	do	750.00	do	33.00
	Siberian and artificial butter	do	90.00	do	3.96
	Lard and goose grease	do	90.00	do	3.96
	Butter, fresh and salt	do	150.00	do	6.60
	Cheese:				
	Inferior qualities	do	60.00	do	2.64
	Superior qualities	do	160.00	do	7.04
53	Quicksilver	do	160.00	do	7.04
54	Seeds: Linseed, colza, rape, henna, poppy, cotton, and alpist seeds, and all grains and seeds not otherwise specified.	do	8.00	do	.352
55	Soap:				
	Green, black, and other soft soaps	do	30.00	do	1.32
	Common unscented hard soaps	do	40.00	do	1.76
	Scented and unscented toilet soaps, in tablets, balls, or boxes.	do	87.00	do	3.828
56	Spirits:				
	Alcohol in casks	do	40.00		1.76
	Cognac, rum, arrack, brandies, and other sweetened or highly flavored spirits, in casks.	do	100.00		4.40
	(NOTE.—All spirits above 75° Tralles, as well as alcohol, are liable, in addition, to excise duty.)				
	Same as above, in bottles	do	150.00		6.60
57	Starch, fecula, and starch-powder	do	36.00		1.584
58	Sugar and molasses:				
	Sugar:				
	Refined, in the loaf, whole or broken, cut in tubes or tablets, coarsely or finely powdered; sugar candy,	do	60.00		2.64
	Brown sugar	do	48.00		2.112
	Sirup of sugar; granulated fruit or starch sugar.	do	21.00		.924
	Molasses; liquid fruit sugar	do	9.00		.396
59	Tin:				
	Ore	do	16.00		.704
	In ingots and bars	do	92.00		4.048
	Scrap and waste	do	80.00		3.52
	Partially manufactured tin: In slabs and sheets and tinware.	do	92.00	220 lbs.	4.048

Provisional and new tariffs of Turkey—Continued.

Number.	Articles.	New tariff.			
		Turkish.		Equivalent in American currency.	
		Unit.	Duty in gold.	Unit.	Duty in gold.
59	Tin—Continued.				
	Finished articles in tin: Common tinware, such as pipes, dishes, plates, kettles, and other vessels, neither polished nor varnished.	100 kilos..	156.00	220 lbs....	$6.864
	Fine or varnished tinware: Goods in tin, combined with materials other than wood or iron, as well as tin foil, ornaments of apparel, buttons, spoons, teapots, and such like articles.	....do.....	270.00	....do.....	11.88
60	Tobacco:				
	Leaf:				
	Tombehi or Persian tobacco	....do.....	234.50	....do.....	9.878
	Tobacco in the leaf, or coarse or fine cut (prohibited).				
	Cigars and cigarettes:				
	Cigars and tobacco leaf, rolled	100 kilos..	3,000.00	220 lbs...	132.00
	Cigars or cigarettes, even partially manufactured, of coarse or fine-cut tobacco (prohibited).				
	Snuff	100 kilos..	2,300.00	220 lbs....	101.20
	Chewing tobacco	....do.....	1,125.00	....do.....	49.50
	All other manufactured tobacco and waste (prohibited).				
61	Vegetables:				
	Onions	100 kilos..	4.50	220 lbs....	.198
	Garlic	....do.....	15.00	....do.....	.66
	Other vegetables not specified	....do.....	15.00	....do.....	.66
	Vegetables dried, corn in powder, boiled or salted	....do.....	30.00	....do.....	1.32
62	Wood:				
	Hard woods for building, cabinet-making, or carpentering, viz:				
	Box wood	....do.....	6.00	....do.....	.264
	Ebony	....do.....	10.00	....do.....	.44
	Mahogany	....do.....	16.00	....do.....	.704
	Walnut	....do.....	4.00	....do.....	.176
	Rose-wood	....do.....	18.00	....do.....	.792
	Oak, chestnut, maple, &c	....do.....	2.40	....do.....	.105
	White woods for building or carpentering, viz:				
	Sawed or planed, in blocks, planks, laths or boards.	Cub. met..	16.00	Cub. met..	.704
	Masts, yards, and poles in the rough, or shaped by ax.	....do.....	10.00	....do.....	.44
	Staves, in hard and white woods	100 kilos..	4.00	220 lbs....	.176
	Manufactures:				
	Furniture covered in whole or in part with cloth.	....do.....	225.00	....do.....	9.90
	Bent wood furniture, entire or in pieces	....do.....	97.50	....do.....	4.29
	Seats, plain, in common woods	....do.....	82.50	....do.....	3.63
	Seats in woods used for cabinet making	....do.....	135.01	....do.....	5.94
	Seats in all kinds of woods carved, gilt, bronzed, inlaid, &c.	... do.....	210.00	....do.....	9.24
	Solid furniture:				
	Other than seats in common wood	....do.....	82.50	....do.....	3.63
	Other than seats in fancy woods with or without molding, but neither carved, inlaid, nor ornamented, &c.	....do.....	135.00	....do.....	5.94
	Other than seats in fancy woods, ornamented with carvings, &c.	....do.....	240.00	....do.....	10.56
	Furniture veneered:				
	Without carving	....do.....	127.50	....do.....	5.61
	Carved, &c	....do.....	240.00	....do.....	10.56
63	Wool:				
	All kinds, including alpaca, lama, vicuna, angora, and other goats' hair and other camels' hair:				
	Combed or carded	....do.....	80.00	....do.....	3.52
	Dyed	....do.....	100.00	....do.....	4.40
	Raw, washed or unwashed	....do.....	36.00	....do.....	1.584
	Shoddy and other waste	....do.....	16.00	....do.....	.704
64	Zinc:				
	Ore	....do.....	2.00	....do.....	.088
	Ingots or bars	....do.....	12.00	....do.....	.528
	Scrap zinc and zinc waste	....do.....	8.00	....do.....	.352

UNITED KINGDOM.

Customs tariff of Great Britain on the products and manufactures of the United States.

[Prepared by Consul-General Waller.]

Tariff classification.	Tariff rates of duty.	Equivalent in United States money.
	£ s. d.	
Agricultural implements	Free.	
Animals	Free.	
Art works	Free.	
Bark and extracts	Free.	
Blacking	Free.	
Bones, hoofs, horns, &c.	Free.	
Books, maps, engravings, &c. [Reprints of English authors are subject to confiscation.]		
Brass and manufacturers of	Free.	
Breadstuffs	Free.	
Bricks	Free.	
Brooms and brushes	Free.	
Candles	Free.	
Carriages and horse cars	Free.	
Chemicals:		
Chloral hydrate, per pound	1 3	$0 30
Chloroform, per pound	3 0	73
Collodion, per gallon	1 4	5 33
Ether, sulphuric, per gallon	1 5	6 08
Ethyl, iodide of, per gallon	13 0	3 16
Clocks and watches:		
On the gold, per ounce	17 0	4 14
On the silver, per ounce	1 6	36
Coal	Free.	
Copper	Free.	
Cotton	Free.	
Earthen, stone, and china ware	Free.	
Fertilizers	Free.	
Fish	Free.	
Flax, hemp, and jute manufactures	Free.	
Fruits, preserved (almonds and dates free), per cwt	7 0	1 70
Furs	Free.	
Glass manufactures	Free.	
Glucose	Free.	
Glue	Free.	
Gunpowder	Free.	
Hair	Free.	
Hay	Free.	
Hides and skins	Free.	
Honey	Free.	
Hops	Free.	
Ice	Free.	
India-rubber manufactures	Free.	
Jewelry:		
Gold, per ounce	17 0	4 14
Silver, per ounce	1 6	36
Lamps	Free.	
Lead manufactures	Free.	
Leather manufactures	Free.	
Lime and cement	Free.	
Malt liquors:		
Beer, mum, and spruce, the original specific gravity not exceeding 1.215 degrees, per barrel	1 6	6 32
Exceeding 1.215 degrees, per barrel	1 10 6	7 41
The worts of which before fermentation of a specific gravity of 1.057 degrees, per barrel	6 6	1 58
Medical instruments	Free.	
Naval stores, including resin, tar, turpentine, and pitch	Free.	
Oil cakes and meal	Free.	
Oils—animal, mineral, and vegetable	Free.	
Paraffine and wax	Free.	
Paints	Free.	

Customs tariff of Great Britain on the products, &c., of the United States—Continued.

Tariff classification.	Tariff rates of duty.	Equivalent in United States money.
	£ s. d.	
Paper manufactures	Free.	
Plated ware	Free.	
Provisions	Free.	
Quicksilver	Free.	
Seeds	Free.	
Soap, transparent, in the manufacture of which spirit has been used, per pound	3	$0 06
Spirits:		
Brandy, Geneva, rum, and unenumerated, per gallon	10 4	2 51
Perfumed spirits and Cologne water, per gallon	16 6	4 01
Sweetened, unenumerated, in bottle, not tested for ascertaining strength, per gallon	14	3 41
Starch	Free.	
Sugar and molasses	Free.	
Tin	Free.	
Tobacco:		
Unmanufactured, per pound	3 6	85
Containing less than 10 per cent. of moisture, per pound	3 10	93
Cigars, per pound	5 6	1 34
"Cavendish" or "Negro-head," per pound	4 10	1 17
Same, manufactured in bond, per pound	4 4	1 05
Snuff, per pound	4 1	99
Snuff, not more than 13 pounds (in 100 pounds) moisture, per pound	4 10	1 17
Other, manufactured, per pound	4 4	1 05
Vegetables	Free.	
Wood manufactures	Free.	
Wool	Free.	
Zinc	Free.	

Customs tariff of Great Britain on articles not mentioned in Department circular of April 19, 1886.

Tariff classification.	Tariff rate of duty.	Equivalent in United States money.
	£ s. d.	
Cards, playing, per dozen packs	3 9	$0 91
Chicory:		
Raw or kiln-dried, per cwt	13 3	3 22
Roasted or ground, per pound	2	04
Chicory and coffee mixed, per pound	2	04
Cocoa:		
Husks and shells, per cwt	2 0	49
Chocolate, ground, prepared, or in any way manufactured, per pound	2	04
Coffee, kiln-dried, roasted, or ground, per pound	2	04
Essence of spruce, for every £100 value	10 00 0	48 66
Fig-cake	7 9	1 88
Tea	6	12
Wire:		
Red wine, white wine, and lees of such wine containing less than 26 degrees of proof spirit, verified by Sykes hydrometer, per gallon	1 0	24
Containing more than 26 and less than 42 degrees	2 6	61

NORTH AMERICA.

CANADA.

Tariff rates of duties in the Dominion of Canada.

[Prepared by Consul-General Wendell A. Anderson.]

No.	Classification.	Duties.*
1	Agricultural implements	35 per cent.
2	Animals:	
	Brought into Canada temporarily, and for a period not exceeding three months, for the purpose of exhibition or competition.	Free.
	For the improvement of stock, viz: Horses, cattle, sheep, and swine	Do.
	Living of all kinds, not elsewhere specified	20 per cent.
3	Art works	Do.
4	Bark, and extracts: Cinchona bark, hemlock, tanners'	Free.
5	Blacking	25 per cent.
6	Bones, hoops, horns, &c.:	
	Bones, crude, not manufactured, burned, calcined, ground, or steamed	Free.
7	Books, maps, engravings, &c.:	
	Books, bound printed more than seven years at date of importation	Do.
	Books printed by any Government or by any scientific association or other society.	Do.
	Books, educational, imported by schools for deaf and dumb, exclusively	Do.
	Books embossed for the blind	Do.
	Books, immoral or indecent character	Prohibited.
	Books, not elsewhere specified	15 per cent.
	British copyright works, reprints of	15 p. c. and 12½ p.c.
	Bibles, prayer books, psalm and hymn books	5 per cent.
	Books, blank, viz:	
	Account books, copy book, or books to be drawn or written upon	30 per cent.
8	Brass, and manufactures of:	
	Brass, in bar and bolts, seamless drawn tubing	10 per cent.
	Brass, in strips for printer's rules, not finished	15 per cent.
	Brass, manufactures of, not elsewhere specified	30 per cent.
	Brass, wire cloth, and copper	20 per cent.
	Brass, old scrap and in sheets	Free.
	Brass, wire, or copper, round or flat	Do.
9	Breadstuffs:	
	Grain and flour and meal of all kinds, when damaged by water in transit	20 per cent.
	Barley	15 per bushel.
	Bread and biscuits	20 per cent.
	Indian corn	7½ per bushel.
	Oats	10 per bushel.
	Rye	Do.
	Wheat	15 per bushel.
	Flour	20 per cent.
	Buckwheat	10 per bushel.
	Buckwheat meal and flour	½ cent per pound.
	Rice	1 cent per pound.
	Rice, uncleaned, unhulled, or paddy, when imported direct from the country of growth.	17½ per cent.
	Pease	10 cts. per bushel.
	Beans	15 cts. per bushel.
	Cornmeal	40 cts. per barrel.
	Oatmeal	½ cent per pound.
	Rye flour	50 per barrel.
	Wheat flour	Do.
10	Bricks:	
	For building	20 per cent.
	Fire and tiles	Do.
11	Brooms and brushes:	
	As manufactures of wood	25 per cent.
	Broom corn	Free.
12	Candles:	
	Tallow	2 cents per pound.
	Paraffine, wax	5 cents per pound.
	All other, including sperm	25 per cent.

* The native currency is the same as that of the United States.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
13	Carriages and horse-cars:	
	Carriages, buggies of all kinds, farm wagons, farm, railway, or freight-carts.	35 per cent.
	Sleighs, cutters, wheelbarrows, and hand-carts	30 per cent.
	Children's carriages of all kinds	35 per cent.
	Parts of carriages or of other manufactured articles shall be charged with the same rate of duty on a proportionate valuation as that chargeable upon the finished article. Carriages of travelers, and carriages laden with merchandise, and not to include circus troops nor hawkers.	Free.
14	Cars (railroad steam), railway cars	30 per cent.
15	Chemicals:	
	Acid, acetic	25 cents per L. gal.
	Muriatic and nitric	20 per cent.
	Sulphuric	½ cent per pound.
	Sulphuric and nitric combined, and all mixed acids	25 per cent.
	Aniline dyes	10 per cent.
	Essences, viz: Apple, pear, pineapple, raspberry, strawberry, and other fruits.	$1.90 per gallon.
	Essential oils	20 per cent.
	Lead, nitrate and acetate	5 per cent.
	Liquorice-root, paste extract of	15 per cent.
	Liquorice, stick	1 cent per pound and 20 per cent.
	Malt, extracts of	25 per cent.
	Milk food	30 per cent.
	Proprietary medicines, to wit, tinctures, pills, powders, troches or lozenges, sirups, cordials, bitters, anodynes, tonics, plasters, liniments, salves, ointments, pastes, drops, waters, essences, oils, or medicinal preparations recommended to the public under any general name, all liquids.	50 per cent.
	And all others	25 per cent.
16	Clocks and watches:	
	Clocks, and parts thereof, except springs	35 per cent.
	Clock springs	10 per cent.
	Watches and cases	25 per cent.
	Watch actions or movements	20 per cent.
17	Coal:	
	Anthracite, 2,000 pounds ton	50 cents per ton.
	Bituminous, 2,000 pounds ton	60 cents per ton.
	Dust	20 per cent.
18	Copper:	
	Old and scrap, in pigs, bars, rods, bolts, ingots, and sheathing, not planished or coated, and copper seamless drawn tubing.	10 per cent.
	Rivets and burrs, and manufactures of	30 per cent.
	Wire cloth and brass	20 per cent.
	Sheets	Free.
	Precipitate of copper, crude	Do.
	Verdigris, or sub-acetate of copper, dry	Do.
	Wire of brass or copper, round or flat	Do.
19	Cotton and manufactures of:	
	Gray or unbleached and bleached cotton, sheetings, drills, ducks, cotton or canton flannels, not stained or printed.	1 cent per sq. yd. and 15 per cent.
	All cottons, denims, drillings, plaids, ginghams, dyed or colored, Kentucky jeans.	2 cents per square yard and 15 p. ct.
	White cotton jeans and coutilles	20 per cent.
	Over 36 inches wide, for window-shades	15 per cent.
	42 inches wide and over, for enameled cloth	Do.
	Wadding, batting, batts and warps, carpet warps, knitting yarn, hosiery yarn, and other cotton yarns, under No. 40, not bleached, dyed or colored.	3 cents per pound and 15 per cent.
	And if bleached, dyed, or colored	3 cents per pound and 15 per cent.
	Warp No. 60 and finer	15 per cent.
	On beams	1 cent per yard and 15 per cent.
	Thread on spools	20 per cent.
	Thread in hanks	12½ per cent.
	All clothing made of cotton or other material not otherwise provided for	30 per cent.
	Lampwicks	Do.
	Printed or dyed, not elsewhere specified	27½ per cent.
	All manufactures, not elsewhere specified	20 per cent.
	Waste and cotton wool	Free.
	Yarns finer than No. 40, unbleached, bleached, or dyed, and not finer than No. 60, for the manufacture of Italian cloths and worsted fabrics.	Do.
	Checked, striped, or fancy cotton wincyes over 25 inches wide	2 cents per square yard and 15 p. ct.
	Bed quilts, not including woven quilts or counterpanes	27½ per cent.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
20	**Earthen, stone, and china ware:**	
	China and porcelain	25 per cent.
	Brown or colored, and Rockingham ware	30 per cent.
	White, granite, or iron-stone ware and "*C. C.*" or cream-colored ware	Do.
	Decorated, printed, or sponged, and all other, not elsewhere specified	Do.
21	**Fertilizers:**	
	Guano, and other animal and vegetable manures	Free.
	Bone-dust and bone-ashes for manufacture of phosphates and fertilizers	Do.
22	**Fish:**	
	Mackerel	1 cent per pound.
	Herrings, pickled or salted	½ cent per pound.
	Salmon, pickled	1 cent per pound.
	All other fish, pickled in barrels	Do.
	Foreign-caught fish imported otherwise than in barrels or half barrels, whether fresh, dried, salted, or pickled, not specially enumerated or provided for in this act.	50 cents per 100 pounds.
	Smoked and boneless fish	1 cent per pound.
	Anchovies and sardines:	
	Packed in oil, otherwise in tin boxes measuring not more than 5 inches long, 4 inches wide, and 3⅛ inches deep.	5 cents per box.
	In half boxes, measuring not more than 5 inches long, 4 inches wide, and 1⅛ deep.	2½ cents per box.
	Quarter boxes, measuring not more than 4¼ inches long, 3⅛ inches wide, and 1½ deep.	2 cents per box.
	When imported in any other form	30 per cent.
	Fish, preserved in oil, except anchovies and sardines	Do.
	Salmon and all other fish prepared or preserved, including oysters, not specially enumerated or provided for.	25 per cent.
	Oysters:	
	Shelled, in bulk	10 cents per gallon.
	In cans not over 1 pint	3 cents per can.
	In cans over 1 pint and not over 1 quart, including cans	5 cents per can.
	In cans exceeding 1 quart in capacity, an additional specific duty of 5 cents for each quart or fraction of a quart of capacity, including cans.	5 cents per quart.
	In the shell	25 per cent.
	Fish, bait	Free.
	The following articles, when the natural products or the manufactures of the colony of Newfoundland, viz: Fish, fresh, dried, salted, or smoked, fish oil, and all products of fish.	Free.
23	**Flax, hemp, and jute, manufactures of:**	
	Canvas of hemp or flax and sail twine, when to be used for boats' and ships' sails.	5 per cent.
	Carpeting, matting, and mats of hemp	25 per cent.
	Flax fiber:	
	Scutched	1 cent per pound.
	Hackled	2 cents per pound.
	Flax, tow of, scutched or green	½ cent per pound.
	Jute, carpeting, or matting and mats	25 per cent.
	Jute, manufactures of, not elsewhere specified	20 per cent.
	Hemp, undressed	Free.
	Jute butts	Do.
	Jute	Do.
	Jute and hemp, rags, fit only for manufacture of paper	Do.
	Jute cloth, as taken from the loom, neither pressed, mangled, calendered, nor in any way finished, and not less than 42 inches wide, when imported to be manufactured into bags only.	Do.
24	**Fruits and preserved fruits:**	
	Raisins	1 cent per pound and 10 per cent.
	Dried, viz: Currants, dates, figs, prunes, and all other dried fruits, not elsewhere specified.	1 cent per pound.
	Green, viz: Blackberries, gooseberries, raspberries, and strawberries, including the weight of the package.	4 cents per pound.
	Peaches, including the weight of the package	1 cent per pound.
	Cherries and currants	1 cent per quart.
	Cranberries, plums, and quinces	30 per bushel.
	Oranges and lemons	20 per cent.
	In air-tight or other packages, including cans or other packages weighing not over 1 pound.	3 cents per can or package.
	For each pound or fraction of a pound over 1 pound in weight	3 cents per can or pakage.
25	**Furs:**	
	Skins, wholly or partially dressed	$1 per I. gal.
	Preserved in brandy and other spirits	15 per cent.
	Caps, hats, muffs, tippets, capes, coats, cloaks, and other manufacture of fur,	25 per cent.
	Fur skins of all kinds, not dressed in any manner	Free.
	Hatters' furs, not on the skin	Do.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
26	Glass and manufactures of:	
	Carboys and demijohns, bottles and decanters, flasks and phials of every description, telegraph and lightning-rod insulators; jars and glass balls, and cut, pressed, or molded table ware.	30 per cent.
	Ornamented, figured, and enameled stained glass; stained, tinted, painted and vitrified glass, and stained glass, windows, figured, enameled, and obscured white glass.	Do.
	Silvered plate	Do.
	Common and colorless window glass	20 per cent.
	Imitation porcelain shades, and colored glass, not figured, painted, enameled or engraved.	20 per cent.
	All other glass and manufactures of glass not herein otherwise provided for.	6 cts per sqr. foot.
	Plate glass, not colored, in panes not over 30 square feet	8 cts per sqr. foot.
	Plate glass in panes over 30, and not over 70 square feet	9 cts per sqr. foot.
	Plate glass in panes over 70 square feet	Free.
	Bent for manufacturers of show cases, provided it is not made in Canada.	2 cents per pound.
27	Glucose, or grape sugar to be classed and rated for duty as sugar according to grade, by Dutch standard in color, sirup.	20 per cent.
28	Glue	
29	Gunpowder:	
	Gun, rifle, and sporting powder, in kegs, half kegs, or quarter kegs, and other similar packages.	5 cents per pound.
	Cannon and musket powder, in kegs and barrels	4 cents per pound.
	Canister powder, in pound and half-pound tins	15 cents per pound.
	Blasting and mining powder	3 cents per pound.
	Giant powder, dualin dynamite, and other explosives in which nitroglycerine is a constituent part.	5 cents per pound, and 20 per cent.
30	Hair:	
	Curled	20 per cent.
	Cloth of all kinds	30 per cent.
	Angola, buffalo, and bison, camel, goat, hog, horse, and human, cleaned, or uncleaned, but not curled or otherwise manufactured.	Free.
31	Hay	20 per cent.
32	Hides and skins:	
	Hides and skins raw, whether dried, salted, or pickled	Free.
	All other leather and skins tanned, not elsewhere specified	20 per cent.
33	Honey, bees', in the comb or otherwise	3 cents per pound.
34	Hops	6 cents per pound.
35	Ice	Free.
36	India-rubber manufactures:	
	Boots and shoes, and other manufactures of, not elsewhere specified	25 per cent.
	India-rubber clothing, or clothing made water-proof with india-rubber	35 per cent.
	India-rubber vulcanized handles for knives and forks	10 per cent.
37	Iron and steel manufactures:	
	Tubing, wrought iron, plain, 2 inches in diameter or under, coupled, and threaded, or not.	30 per cent.
	Wire, iron or steel, galvanized or not, fifteen gauge and coarser	20 per cent.
	Wire-fencing, buckthorn, strip, and other similar fencing wire of iron or steel.	1½ cents per pound.
	Hoop-iron, not exceeding three-eighths of an inch in width, and being No. 25 gauge or thinner, used for the manufacture of tubular rivets.	Free.
	Pig	$2 per ton.
	In slabs, blooms, loops, or billets, puddled or not, and muck and puddled bars or billets.	10 per cent.
	In bars, rolled or hammered, including flats, rounds, and squares, nail and spike rods, and all other iron not otherwise provided for.	17½ per cent.
	Rolled round wire rods, in coils under half an inch in diameter	10 per cent.
	Iron rails or railway bars for railways or tramways	15 per cent.
	Railway fish plates, frogs, frog-points, chairs and finger-bars	17½ per cent.
	Band and hoop, sheets, smoothed or polished, coated or galvanized, and common or black, No. 17 gauge or thinner, boiler-plate, and Canada plates.	12½ per cent.
	Iron and steel wire, galvanized or not, over fifteen gauge, and not elsewhere specified.	15 per cent.
	Stoves and other castings, and forgings not elsewhere specified	25 per cent.
	Gas, water, and soil pipes of cast iron	Do.
	Car-wheels and axles of, iron or steel	Do.
	Rolled beams, channels and angle, and T-iron, steel or iron and steel	12½ per cent.
	Iron bridges and structural iron work, malleable iron castings and iron safes, and doors for safes and vaults.	25 per cent.
	Locomotive engines and stationary, fire, or other steam engines and boilers, and other machinery composed wholly or in part of iron, and not elsewhere specified.	Do.
	Locomotive tires of steel or Bessemer steel, in the rough	10 per cent.
	Wrought-iron tubing, plain, not threaded, coupled, or otherwise manufactured, over 2 inches in diameter.	15 per cent.
	Wrought-iron tubing, plain, two inches in diameter or under, coupled and threaded or not.	25 per cent.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
37	Iron and steel manufactures—Continued.	
	Lap-welded boiler-iron tubing, not threaded, coupled, or otherwise manufactured, 1¼ inches in diameter and over.	15 per cent.
	Ornamental iron work and wire work	25 per cent.
	Skates and locks of all kinds	30 per cent.
	Tinned, glazed or enameled hollow-ware, of cast or wrought iron	25 per cent.
	Hardware, viz: Builder, cabinet-makers', upholsters', and carriage-makers', saddlers' and undertakers', including coffin trimmings of metal.	30 per cent.
	Bolts, washers, and rivets, of iron or steel	Do.
	Forks, cast-iron, not handled, ground or otherwise further manufactured	10 per cent.
	Printing presses of all kinds	Do.
	Pumps, iron, pitcher-spout, cistern, well and force pumps	35 per cent.
	Tacks, brads, and sprigs, Hungarian and clout nails	30 per cent.
	Horse-shoes and horse-shoe nails	30 per cent.
	Iron-wire nails, called "Pointes de Paris"	30 per cent.
	Iron and steel screws, commonly called "wood-screws"	35 per cent.
	Scales, balance and weighing beams	30 per cent.
	Chain cables, over nine-sixteenths of an inch in diameter, whether shackled or swiveled or not	5 per cent.
	Nails and spikes—	
	Cut	¼c. p.lb. and 10 p. ct.
	Wrought and pressed, whether galvanized or not	¾c. p.lb. and 10 p. ct.
	Composition nails and spikes and sheathing-nails	20 per cent.
	Nuts of iron or steel	1c. per lb. and 10 p.c.
	All articles rated as iron or manufactures of iron shall be chargeable with the same rate of duty if made of steel, or of steel and iron combined, unless otherwise expressly provided.	
	Screws of iron, steel, brass, or other metal, not otherwise provided for	30 per cent.
	Silver, rolled, and German and nickel silver in sheets	10 per cent.
	Steel, ingots, bars, sheets, under $\frac{1}{8}$ of an inch, whole or cut to shape, but not further manufactured, and rolled round wire, rods in coil, not elsewhere specified.	$3 per ton of 2,000 lbs. and 10 per ct.
	Steel, rolled round wire rods under ¼ an inch in diameter, when imported by wire manufacturers for use in their factories.	5 per cent.
	Steel, needles, viz, cylinder needles, hand frame needles and latch needles.	30 per cent.
	Carpenters', coopers', cabinet-makers', and all other mechanics' tools, edge tools of every description, axes and saws of all kinds.	30 per cent.
	Files and rasps	35 per cent.
	Fire-arms, viz, muskets, rifles, pistols, and shot-guns; cutlery and all manufactures of steel, and of iron and steel, not elsewhere specified.	20 per cent.
	Knife blades or knife blanks, in the rough, unhandled, for use by electro-platers.	10 per cent.
38	Jewelry and manufactures of gold and silver	20 per cent.
39	Lamps and gas-light shades, lamps and lamp chimneys	30 per cent.
40	Lead and manufactures:	
	Old, scrap, and pig	40 cents per 100 lbs.
	Lead, bars, blocks and sheets	69c per 100 pounds.
	Lead pipe and lead shot	1¼ cents per pound.
41	Leather and manufactures:	
	Sole, tanned but rough or undressed	10 per cent.
	Sole and belting leather, and all upper leather, including kid, lamb, sheep, and calf, tanned or dressed, but not waxed or glazed, dressed and waxed or glazed.	15 per cent.
	Japanned, patent, or enameled leather	20 per cent.
	Cordova leather, tanned from horse-hide, and manufactures of	Do.
	All other leather and skins tanned, not elsewhere specified	25 per cent.
	Boots and shoes and other manufactures of leather, and leather belting	20 per cent.
42	Lime and cement:	25 per cent.
	Cement, raw, or in stone from the quarry	$1.00 per ton.
	Cement burnt and unground	7½c per 100 pounds.
	Cement, hydraulic or water lime, ground, including barrels	40 cents per barrel.
	Cement, in bulk or in bags	9 cents per bushel.
	Cement, Portland or Roman	20 per cent.
43	Malt liquors:	
	Ale, beer, and porter—	
	When imported in bottles (six-quart or twelve pint-bottles to be held to contain one imperial gallon).	18 cents per imperial gallon.
	When imported in casks or otherwise than in bottles	10c p. imperial gal
44	Medical instruments:	(Not given).
	Surgical instruments—	
	Steel	20 per cent.
	Plated	30 per cent.
	Musical instruments of all kinds not otherwise provided for	25 per cent.
45	Naval stores:	
	Rosin	Free.
	Tar pine	Do.
	Turpentine, and pitch, raw or crude	Do.
46	Oil cake and meal	Do.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
47	Oils:	
	Animal and fish, viz:	
	Lard, neatsfoot, sperm	20 per cent.
	Spermaceti, whale, and other fish-oils, and all other articles the produce of the fisheries, not especially provided for.	Do.
	Provided, That the whole or part of the said duties hereby imposed may be remitted upon proclamation of the governor in council, which may be issued whenever it appears to his satisfaction that the Government of the United States and the island of Newfoundland, or either of them, have made changes in their tariffs of duties imposed upon articles imported from Canada in reduction or repeal of the duties in force in said countries.	
	Cod liver, medicated	20 per cent.
	Carbolic or heavy oil	10 per cent.
	Coal and kerosene, distilled, purified, or refined; naphtha, benzole, and petroleum; products of petroleum, coal, shale, and lignite, not elsewhere specified.	7½ c. per imp. gall.
	Lubricating oils, composed wholly or in part of petroleum, and costing 30 cents per imperial gallon.	25 per cent.
	The same, costing less than 30 cents per imperial gallon	7½ c. per imp. gall.
	All other	25 per cent.
48	Paraffine wax or stearine	3 cents per pound.
49	Paints and colors:	
	Ground in oil or any other liquid	25 per cent.
	Not elsewhere specified	20 per cent.
50	Paper and manufactures of:	
	Hangings or wall-paper and glazed, plated, marbled, enameled, or embossed paper, in rolls or sheets, and card-boards similarly finished.	30 per cent.
	Calendered	22½ per cent.
	Ruled	25 per cent.
	Of all kinds not elsewhere specified	20 per cent.
	Envelopes and all manufactures of paper not elsewhere specified	25 per cent.
	Paper, union collar cloth in sheets, not shapen	5 per cent.
	Mill board, not straw board	10 per cent.
	Collars, cuffs, and shirt fronts of paper, linen or cotton	30 per cent.
	Playing cards	6 cents per pack.
	Tissue paper, white and colored, when imported by manufactures of artificial flowers for use in their factories.	10 per cent.
	Paper waste or clippings, and waste of any kind fit only for manufacture of paper.	Free.
51	Plated ware, viz:	
	Electro plated and gilt of all kinds, including cutlery, plated wholly or in part.	30 per cent.
	Communion plate, and plated ware for use in churches	Free.
52	Provisions:	
	Meats, fresh or salted, on actual weight as received in Canada, except shoulders, sides, bacon, and hams.	1 cent per pound.
	Shoulders, sides, bacon, and hams, fresh, salted, dried, or smokedo	2 cents per pound.
	All other dried or smoked meats, or meats preserved in any other way than salted or pickled, not elsewhere specified (if imported in cans, the rate to include the duty on the cans, and the weight on which duty shall be payable to include the weight of the cans,	2 cents per pound.
	Oleomargarine, butterine, or other substitute for butter	10 cents per pound.
	Lard, tried or rendered	2 cents per pound.
	Lard, untried	1½ cents per pound.
	Butter	4 cents per pound.
	Cheese	3 cents per pound.
53	Quicksilver	Free.
54	Seeds, viz:	
	Flower, garden, field, and other seeds, for agricultural purposes, when in bulk or in large parcels.	15 per cent.
	When put in small papers or parcels	25 per cent.
	Anise, coriander, cardamon, fennel, and fenugreek	Free.
55	Soap:	
	Common, brown, and yellow, not perfumed	¼ cents per pound.
	Castile and white	2 cents per pound.
	Perfumed or toilet	30 per cent.
	Soap powders	3 cents per pound.
56	Spirits:	
	Spirits and strong waters not having been sweetened or mixed with any article, so that the degree of strength thereof cannot be ascertained by Sykes' hydrometer, for every imperial gallon of the strength of proof of such hydrometer, and so in proportion for any greater or less strength than the strength of proof, and for every greater or less quantity than a gallon, viz, Geneva gin, rum, whisky, alcohol, or spirits of wine, and unenumerated, unmixed, and not sweetened spirits, by whatever name called.	$1.75 imp. gallon.
	Old Tom gin	$1.90 per imp. gal.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
56	Spirits—Continued.	
	Spirits and strong waters, mixed with any ingredient or ingredients, and although thereby coming under the denomination of proprietary medicines, tinctures, essences, extracts, or any other denomination, including medicinal elixirs and fluid extracts, whether in bulk or bottle, not elsewhere specified, shall be nevertheless deemed to be spirits or strong waters.	$2 p. imp. gal. and 30 per cent.
	Geneva gin, rum, whisky, and unenumerated articles of like kinds	$1.75 per imp. gal.
	Brandy	$2 per imp. gal.
	Spirits and strong waters not elsewhere specified	$1.90 per imp. gal.
57	Starch, including farina, corn-starch or flour, and all preparations having the qualities of starch.	2 cents per pound.
58	Sugar:	
	Melado, concentrated melado, concentrated cane-juice, concentrated molasses, concentrated beet-root juice, and concrete, when imported direct from the country of growth, the production for refining purposes only, not over No. 13 Dutch standard in color, and not testing over seventy degrees by the polariscope.	1 c. p. lb., 70 deg. test, and 3½ cts. per 100 lbs. for each deg. above 70.
	Not for refining purposes, not over 13 Dutch standard in color, when imported direct from the country of growth and production.	1 cent per pound and 30 per cent.
	All sugars above No. 13 Dutch standard in color, and on refined sugar of all kinds, grades or standards.	1½ cent per pound and 35 per cent.
	All sugars not imported direct without transshipment from the country of growth and production.	7½ per cent of duty additional
	Refined sugars of all grades or standards	1 c. p. lb. and 35 p. ct.
	Sirups, cane juice, refined sirup, sugar-house sirup or sugar-house molasses, sirup of molasses or sorghum, whether imported direct or not.	1 c. p. lb. and 30 p. ct.
	Molasses, other, when imported direct without transshipment and from the country of growth and production.	15 per cent.
	Molasses when not so imported	20 per cent.
	Molasses, when not so imported for or received into any refinery or sugar factory, or to be used for any other purposes than actual consumption.	5 c. p. imp. gall.
	Sugar candy, brown or white, and confectionery	1½ c. p. lb. and 35 p. ct.
59	Tin:	
	Tinware, stamped and japanned ware and all manufactures of tin not elsewhere specified.	25 per cent.
	Cans or packages made of tin or other material, containing fish of any kind, admitted free of duty under any existing law or treaty, not exceeding one quart in contents. When exceeding one quart an additional duty of one cent and a half for each additional quart or fractional part thereof.	1½ cents on each can or package.
	Crystals of	20 per cent.
	In blocks, pigs, bars, and sheets, and plates and tin foil	Free.
60	Tobacco:	
	Manufactured	30 cents per pound and 12½ per cent.
	Unmanufactured, for excise purposes, under conditions of act 31 Victoria, cap. 51;	
	Cigars and cigarettes	$1.20 per pound and 20 per cent.
61	Vegetables, viz:	
	Potatoes	10 cents per bushel.
	Tomatoes	30 cents per bushel.
	Tomatoes and other vegetables, including corn, in cans, or other packages weighing not over one pound each, 2 cents per can or package, and 2 cents additional per can or package for each pound, or fraction of a pound over 1 pound in weight (the rate to include the duty on the cans, or other packages, and the weight on which duty shall be payable to include the weight of the cans or packages).	2 cents per can.
	All other vegetables, including sweet potatoes	20 per cent.
62	Wood and manufactures:	
	Moldings of wood, plain	25 per cent.
	Moldings of wood, gilded or otherwise further manufactured than plain	30 per cent.
	Furniture of wood, iron, or any other material, house, cabinet, or office, finished or in parts, including hair and spring, and other mattresses, bolsters and pillows, caskets and coffins of any material	35 per cent.
	Show-cases	$2 00 each, and 35 per cent.
	Shingles	20 per cent.
	Pails, tubs, churns, brooms, brushes, and other manufactures of wood not elsewhere shown.	25 per cent.
	Hubs, spokes, felloes, and parts of wheels, rough hewn or sawn only	15 per cent.
	Lumber and timber, not elsewhere specified	20 per cent.
	Veneers of wood and ivory, only	Free.
	For fuel, when imported into Manitoba and the northwest territories	Free.
	Woods, not further manufactured than sawn or split, viz. African teak, black heart ebony, lignumvitæ, red cedar, and satin wood.	Free.

Tariff rates of duties in the Dominion of Canada—Continued.

No.	Classification.	Duties.
63	Wool:	
	All fabrics composed wholly or in part of wool, worsted, the hair of the alpaca, goat, or other like animals, not elsewhere specified.	22½ per cent.
	Manufactures composed wholly or in part of wool, worsted, the hair of the alpaca, goat, or other like animals, viz, blankets and flannels of every description, cloths, doeskins, cassimeres, tweeds, coatings, overcoatings, felt cloth of every description not elsewhere specified; horse-collar cloth, yarn, knitting yarn, fingering yarn, worsted yarn, knitted goods, viz, shirts, drawers, and hosiery not elsewhere specified.	7½ c. p. lb. & 20 p.c.
	Clothing, ready-made and wearing apparel of every description, including socks and stockings, cloth caps and horse clothing, shaped, composed wholly or in part of wool, worsted, the hair of the alpaca, goat, or other like animals, made up or manufactured wholly or in part by the tailor, seamstress, or manufacturer, except knit goods.	10 c. p. lb. & 25 p.c.
	All manufactures composed wholly or in part of wool, worsted, the hair of the alpaca, goat, or other like animals not herein otherwise provided for.	20 per cent.
	Treble ingrain, three-ply and two-ply carpets, composed wholly of wool..	10 cts. per sq. yard and 20 per cent.
	Two-ply and three-ply ingrain carpets, of which the warp is composed wholly of cotton or other material than wool, worsted, the hair of the alpaca, goat, or other like animals.	5 cts. per sq. yard and 20 per cent.
	Felt for boots and shoes and skirts, when imported by the manufacturers for use in their factories.	15 per cent.
	Felt for glove linings and endless felt for paper-makers, when imported by the manufacturers for use in their factories.	10 per cent.
	Winceys, plain, of all widths, when the material is not over one-fourth wool.	20 per cent.
	Checked, striped, or fancy, not over 25 inches wide	20 per cent.
	Checked, striped, or fancy-dress winceys, over 25 inches wide, and not over 30 inches, when the material is not more than one-fourth wool.	2 cts. per sq. yard and 15 per cent.
	(But all checked, striped, or fancy winceys over 30 inches wide, shall be subject to duty as woolen goods when the material is partly wool.)	
	Raw, class 1, viz, Leicester, Cotswold, Lincolnshire, Southdown combing wools, or wools known as luster wools, and other like combing wools, such as are grown in Canada.	3 cts. per pound.
	Raw, unmanufactured, hair of the alpaca, goat, and other like animals, not elsewhere specified.	Free.
	Woolen rags	Free.
64	Zinc:	
	Seamless drawn tubing	10 per cent.
	Manufactures of zinc, not elsewhere specified	25 per cent.
	Colors, metallic, viz:	
	Cobalt, zinc, and tin in blocks, pigs and sheets	Free.
	White and red lead, and orange mineral, dry, also white zinc	5 cts. per pound.
	Zinc, chloride, salts and sulphate of	5 cts. per pound.

The full Canadian tariff was printed in Consular Reports No. 72, p. 503

MEXICO.

[Prepared by Consul-General Sutton.]

COMMENT.

There is no discrimination as to imports from different countries. A rebate or discount is or has been allowed on imports in Mexican bottoms.

The Mexican duty is reduced to American money at 80 cents on the dollar.

Manufactures of linen or hemp mixed with cotton pay as linen.

Manufactures of wool mixed with cotton, linen, or hemp pay as woolen.

Manufactures composed of two or more materials not specially mentioned pay according to the highest rate.

Merchandise of unknown materials pays according to analogy. This applies specially to earthen, china, crystal, and glass ware.

By brandies (*aguardientes*) is understood all spirituous liquors which, according to the centesimal alcoholometer of Gay-Lussac, weigh from 15 to 88 degrees, or 12.16 to 35 degrees of Cartier. Those which exceed these weights shall be classed as alcohol.

Net weight is the intrinsic weight of the merchandise; legal weight that which includes the weight of the bottles, boxes, braces (*almas*), wrappings, &c., inside; and gross weight means the total weight of the package.

The numbers 1 to 64, and the titles which immediately follow them, are those given in the circular from the Department. The numbers in parentheses are those given in the translation of the Mexican tariff above mentioned. If the number in parenthesis follows the title it is a duty fixed by a ruling of the Treasury Department.

Any article not specified by the tariff is examined and the duty established by analogy.

Import duties of Mexico.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
1	(414)	Agricultural implements	Kilo	$0 00½	$0 00⅜
		Plows and their shares		Free.	
2		Animals:			
		All kinds alive		Free	
	(644)	Geldings	Each	40 00	32 00
3		Art works:			
	(390)	Prints, paintings, engravings, and lithographs of all classes, with or without frames, gross weight.	Kilo	65	52
	(269)	Statues and busts:			
		Marble or alabaster, of natural sizes or larger dimensions, gross weight.	do	10	08
	(270)	Gypsum or stucco, of natural size or larger dimensions, gross weight.	do	05	04
	(318)	Iron, of natural sizes or larger dimension, gross weight.	do	10	08
	(319)	Copper, bronze or any other alloy of common metals, of natural size or larger dimensions, gross weight.	do	15	12
	(320)	Zinc, of natural size or larger dimensions, gross weight.	do	10	08
	(390)	Photographs	do	65	52
4		Bark and extracts:			
	(518)	Barks, herbs, leaves, flowers, fruits, seeds, and roots, medicinal, gross weight.	do	20	16
	(548)	Extracts of logwood, of Brazil wood, and all dye-woods, gross weight.	do	05	04
5	(348)	Blacking and polish for shoes, gross weight	do	25	20
6		Bones, hoofs, horns, &c. (not stated).			
	(655)	Manufactures of	do	30	24
7		Books, maps, engravings, &c.:			
	(463)	Blank books, ruled or with spaces for writing, with ordinary binding, gross weight.	do	95	76

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
7	.....	Books, maps, engravings, &c.—Continued.			
	(464)	Books, bound in velvet, shell, ivory, tortoise-shell or metal not gold or silver, gross weight.	Kilo	$1 25	$1 00
	(465)	Books, bound in gutta-percha, wood or composition, gross weight.	... do....	1 00	80
	(466)	Books, printed, in paper covers or bound, other than those specified, gross weight.	... do....	01	½
	(468)	Charts, geographical, topographical and nautical, gross weight.	...do	01	½
	(469)	Documents (forms), of all classes, printed, engraved, or lithographed, with or without spaces for writing on them, gross weight.	...do	65	52
	(470)	Music, periodicals, and advertisements, printed, gross weight.	...do	01	½
8	.....	Brass and manufactures of:			
	(338)	Wire, of copper or brass, gross weight	...do	30	24
	(300)	Manufactures of: Copper or brass, wire, of all classes, not gilded or plated, if not specified, gross weight.	...do	35	28
	(301)	Copper, brass, bronze, or any other alloy of common metals, without gilding or plating, not specified, gross weight.	.. do ...	30	24
	(302)	Copper or brass, tinned, enameled, or japanned, not specified, net weight.	...do	40	32
	(303)	Copper, brass, or any other common metal, gilded, plated or nickel-plated, not specified, gross weight.	...do	1 30	1 04
9	.....	Breadstuffs:			
		Barley:			
	(189)	Other than pearled, gross weight.....	...do	04	03
	(518)	Pearled	...do	20	16
		Bread and biscuits, wheat bread	...do	15	12
	(206)	Crackers, of all classes, gross weight.....	...do	15	12
	(207)	Indian corn, gross weight	...do	01	½
	(220)	Oats, gross weight.....	...do	01	½
		Rye, not stated.			
	(224)	Wheat, net weight.....	...do	05	04
	(245)	Wheat flour, of all classes, net weight.....	...do	11	09
	(206)	Corn meal, gross weight.....	...do	01	½
10	(251)	Bricks, not refractory	M	2 40	1 92
11		Brooms and brushes:			
	(351)	Brushes (painters' brushes) and pencils of all classes, gross weight.	Kilo	30	24
	(618)	Brooms of heather, of all sizes and classes, gross weight.	...do	15	12
12		Candles:			
	(620)	Stearine and pressed or unpressed tallow, gross weight.	...do	15	12
	(621)	All classes not specified, gross weight	....do ...	60	48
13	.....	Carriages and horse-cars.			
14	.....	Cars (railroad, steam), coaches, and cars for railroads.	....do ...	Free....	.....
		Carriages, of all classes:			
	(421)	That weigh up to 100 kilograms, excepting those specified, net weight.	....do ...	60	48
	(422)	That weigh more than 100 up to 250 kilograms, net weight.	....do ...	55	44
	(423)	That weigh more than 250 up to 500 kilograms, net weight.	....do ...	50	40
	(424)	That weigh more than 500 up to 750 kilograms, net weight.	....do ...	45	36
	(425)	That weigh more than 750 up to 1,000 kilograms, net weight.	....do ...	40	32
	(426)	That weigh more than 1,000 kilograms, net weight.	....do ...	35	28
	(427)	Carriages, small, for children, of all classes, net weight.	....do ...	30	24
	(428)	Carts (two wheels), wagons (four wheels), of all dimensions, gross weight.	....do ...	06	05
	(429)	Diligences and omnibuses, of all classes, net weight.	....do ...	10	08
	(430)	Shafts (front running gear), for carriages, gross weight.	....do ...	40	32
	(431)	Velocipedes, gross weight.....	....do ...	20	16
	(432)	Wagons (guayines), of all classes and sizes, net weight.	....do ...	20	16
	(433)	Wheelbarrows, of one or two wheels, and handcarts, gross weight.	....do ...	01	½

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
14	.....	Cars, &c.—Continued.			
		Wheels, separate:			
	(434)	For carriages, gross weight	Kilo	$0 40	$0 32
	(435)	For wagons (carts), of all dimensions, gross weight.	....do ...	15	12
15	(540)	Chemical products not specified, legal weight	....do ...	75	60
16	.....	Clocks and watches:			
		Clocks, for table or wall:			
	(411)	With case of wood, gross weight	....do ...	45	36
	(412)	Not specified, nor of gold or silver, gross weight	....do ...	1 25	1 00
		Watches:			
	(416)	Of gold with or without precious stones, striking.	Each ...	14 00	11 20
	(417)	Of gold with or without precious stones, not striking.	....do ...	6 75	5 40
	(418)	Silver, striking	....do ...	5 00	4 00
	(419)	Silver, not striking	.. do ...	1 30	1 04
	(420)	All classes, of metal not specified	....do ...	50	40
17	.....	Coal	Free	.....	.....
18	.....	Copper (ore not specified, ingots, bar, and sheet):			
	(281)	Pigs, gross weight	Kilo	10	08
	(282)	Beaten in leaves, gilded, or plated, gross weight	....do ...	45	36
19	.....	Cotton and manufactures:			
	(1)	Bandas* and scarfs of cotton, of all textures, without embroidery, net weight.	....do ...	1 80	1 44
	(2)	Bandas of cotton, of all textures:			
		Embroidered in cotton or wool, net weight	....do ...	2 10	1 68
	(3)	Embroidered with silk, net weight	....do ...	3 00	2 40
	(4)	Canvas, of cotton, linen, or hemp, net weight	....do ...	65	52
	(5)	Chemises and wraps of cotton cloth, plain or embroidered, for ladies and girls, net weight.	....do ...	3 00	2 40
	(6)	Clothing, ready-made, of cotton and their separate parts, when they come sewed, of all class and textures, with or without trimmings of lace; strips embroidered of cotton or linen; belts (ribbons) of silk or metal, not gold or silver, for men and boys, excepting those specified, legal weight.	....do ...	2 50	2 00
	(7)	Collars and cuffs, of cotton or linen, of all classes, including embroidered ones, net weight.	....do ..	3 60	2 88
	(8)	Corsets, of cotton, linen, or wool, of all sizes, net weight.	....do ...	1 90	1 52
	(9)	Cotton waste or soiled thread, gross weight	....do ...	2	2
	(10)	Cotton:			
		Unginned, gross weight	....do ...	03	02
	(11)	Ginned, gross weight	....do ...	08	06
	(12)	Cotton cloth:			
		Unbleached or white, of plain texture, even when clarified.	Sq. m ...	11	09
	(13)	Mottled, dyed, or stamped, of plain texture, even when clarified.	....do ...	15	12
	(14)	Unbleached, white, or colored, of all kinds of texture, not plain, open-worked, (hemstitched), nor embroidered.	....do ...	17	14
	(15)	White or colored, open-worked (hemstitched), or embroidered.	....do ...	20	16
	(16)	Cotton or linen strips, embroidered in cotton or linen, net weight.	Kilo	2 70	2 16
	(17)	Coverlets, blankets, sarapes,* tilmas,† and counterpanes of cotton, net weight.	Sq. m ..	75	60
	(18)	Covers (linings), of cotton, sewed, or in patterns, for umbrellas, sunshades, parasols, net weight.	Kilo ...	2 10	1 68
	(19)	Cravats, of cotton, goods of all classes, net weight	....do ...	1 90	1 52
	(20)	Curtains, of cotton, of all classes except those of net	Sq. m ...	20	16
	(21)	Dress patterns, of cotton, partly made of all classes, with or without trimming or embroidery, of cotton, for ladies and girls, net weight.	Kilo	1 20	96
	(22)	Dress patterns, of cotton cloth, of all classes, excepting that specified, net weight.	... do ...	1 90	1 52
	(23)	Elastic, of cotton and india-rubber, more than four centimeters in width, net weight.	....do ...	70	56
	(24)	Elastic braid, cord, or tape, of cotton, which measures up to four centimeters in width, net weight.	....do ...	1 60	1 28

* Sarape, a sort of blanket. † Tilma, Mexican name for sort of wrap.

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
19	.....	Cotton and manufactures—Continued.			
	(25)	Fringe, galoon, passementerie, edging, tape, cording, and netting, of cotton, linen, or hemp, or without bugles of glass or metal, with other than gold or silver, net weight.	Kilo	$2 50	$2 00
	(26)	Garters and suspenders, of cotton, with or without buckles, &c., legal weight.	....do ...	65	52
	(27)	Gloves, of cotton or linen, of all sizes:			
		Unlined, net weight	....do ...	3 70	2 96
	(28)	Lined, net weight	....do ...	1 90	1 52
	(29)	Hair nets, of cotton, net weight	....do ...	3 20	2 56
	(30)	Handerchiefs, of cotton:			
		Without embroidery, of all colors and textures, with or without hems or borders.	Sq. m ...	16	12
	(31)	Embroidered with drawn work or trimmed with cotton lace, each.	Each ...	18	14
	(32)	Lace and net, of cotton, and all the manufactures of these materials, even when they are adorned with silk or metal.	Kilo	6 70	5 36
	(33)	Plaitings (flutings), of cotton muslin, with or without cotton lace, net weight.	....do ...	5 30	4 24
		Rebozos (cotton shawls), and those goods stamped, marbled, or striped with figures or designs to imitate rebozos:			
	(34)	Up to 26 threads of warp and woof in a square of one-half centimeter.	Sq. m ...	1 20	96
	(35)	Of more than 26 and up to 38 threads of warp and woof in a square of one-half centimeter.	Kilo	2 20	1 76
	(36)	From 38 to 64 threads of warp and woof in a square of one-half centimeter.	....do ...	4 90	3 92
		Shawls, of cotton (and similar wraps), of all textures except net (lace):			
	(37)	With or without fringe or embroidery of cotton or wool, net weight.	....do ...	2 40	1 92
	(38)	With or without woolen or cotton embroidery, and with fringe of silk and wool, or silk and cotton, net weight.	....do ...	3 20	2 56
	(39)	Shirts, of cotton cloth, white and colored, plain or embroidered, of all sizes, net weight	....do ...	1 30	1 04
	(40)	Shirt-bosoms of cotton, of all classes, net weight	....do ...	2 20	1 76
	(41)	Skirt patterns, of cotton, plain or embroidered, net weight.	....do ...	2 20	1 76
	(42)	Socks, stockings, underdrawers, and undershirts, knitted, of cotton, and all kinds of knitted manufactures not specified, net weight.	....do ...	1 75	1 36
	(43)	Tassels, of cotton, even when their *almas* (inside) are of some other material, net weight.	....do ...	70	56
	(44)	Thread, of cotton, of all classes, sizes, and colors, including crochet cotton, net weight.	....do ...	1 60	1 28
	(45)	Umbrellas, sunshades, and parasols, of cotton	Each....	60	48
	(46)	Underdrawers, of cotton cloth, of all sizes, net weight.	Kilo	1 80	1 44
	(47)	Vests and jackets, of cotton, of stocking-net texture, of all sizes, net weight.	....do ...	1 10	88
		Weaver's yarn, cotton:			
	(48)	Colored, net weight	....do ...	1 10	88
	(49)	White or brownish, net weight	....do ...	70	56
	(50)	Wicking of cotton, gross weight	....do ...	16	13
		(See Cotton mixed with linen, &c., under head of 23, Flax, hemp, and jute.)			
20		Earthen, stone, and china ware:			
	(253)	Crockery ware, porcelain, and china-ware, made in pieces of all forms, classes, and sizes, without mountings or inlaid work, of any material and with the exception of those specified, gross weight.	....do ...	15	12
	(252)	Clay, manufactures of, not specified, gross weight	....do ...	15	12
	(248)	Alabaster, manufactures of, or of marble, not specified, gross weight.	....do ...	25	20
	(254)	Crucibles, of all sizes, gross weight	....do ...	01	½
	(258)	Demijohns, of all sizes, without allowance for breakage, gross weight.	....do ...	03	02
	(274)	Toys of glass, crystal, earthenware, porcelain, or chinaware, of all classes and sizes, gross weight.	....do ...	45	36
21		Fertilizers, not stated.			

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
22	.....	Fish:			
	(210)	Fish and cockles of all classes, dried, smoked, salted, or pickled, legal weight.	Kilo	$0 12	$0 09
	(231)	Preserves of all classes, with exception of those specified, legal weight.	....do ...	80	64
	(616)	Blubber of sperm-whale, gross weight	....do ...	01	1
23		Flax, hemp, and jute manufactures:			
		Carpets and rugs:			
	(51)	Of hemp or tow alone, of plain, crossed, or figured (worked) texture.	Sq. m...	20	16
	(52)	Of hemp alone, or any other vegetable fiber not specified, rough.	....do ...	30	24
	(53)	Of hemp alone, or any other vegetable not specified, smooth.	... do ...	40	32
		Chemises, of linen:			
	(54)	Plain, for women and girls, net weight.....	Kilo	5 60	4 48
	(55)	Embroidered, for women and girls, net weight..	....do ...	10 00	8 00
	(56)	Clothing, ready-made of linen, and their separate parts when they come sewed, with or without lace trimmings, strips of linen or cotton, embroidered and silk ribbons, for men and boys, with the exception of those specified, net weight.	....do ...	3 00	2 40
	(57)	Covers (linings), of linen, sewed or in patterns, for umbrellas, sunshades, and parasols, net weight.	....do ...	2 90	2 32
	(58)	Cravats, of linen, net weight	....do ...	3 70	2 96
	(59)	Dress patterns, of linen, partly made, of all classes, with or without trimmings or embroideries of linen, or of linen and cotton, for women and girls, net weight.	... do ...	1 50	1 20
	(60)	Elastic, of linen or hemp, with india-rubber, of more than 4 centimeters in width, net weight.	....do ...	80	64
	(61)	Garters and suspenders, of linen or hemp, with or without buckles, &c., legal weight.	....do ...	90	72
	(62)	Goods of linen, cut in dress patterns, of all classes, with the exception of those specified, net weight.	....do ...	2 00	1 60
		Goods of linen, hemp, of hemp-tow, or herb-tow:			
	(63)	White, brownish, or colored, of plain texture, which have up to 12 threads of warp and woof in a square of one-half centimeter.	Sq. m ...	13	10
	(64)	White, brownish, or colored, of plain texture, which have more than 12 and up to 36 threads of warp and woof in a square of one-half centimeter.	....do ...	19	15
	(65)	Goods of linen, white and colored, of plain texture, of more than 36 threads of warp and woof in a square of one-half centimeter.	....do ...	20	16
		Goods of linen or hemp, unbleached, white, or colored:			
	(66)	Of all classes of texture, not plain, open-worked, or embroidered.	....do ...	23	18
	(67)	Open-worked or embroidered	....do ...	35	28
		Handkerchiefs, of linen:			
	(68)	Plain, white, and colored, of all textures, with or without hems or borders.	... do ...	20	16
	(69)	Embroidered with open-work or trimmed with lace.	Each....	40	32
	(70)	Hemp, crude or unworked, net weight	Kilo	07	06
	(71)	Hemp, or tow, or oakum, gross weight	....do ...	14	12
	(72)	Lace and net, of linen, and every manufacture of these materials even when they have some ornament of silk or metal other than gold or silver, legal weight.	....do ...	9 50	7 60
	(73)	Linen (fiber), crude or unworked, gross weight....	Kilo	08	06
		Rebozos (long shawls), of linen, and those textures stamped, marbled, striped, with figures or designs that imitate rebozos:			
	(74)	Up to 26 threads of warp and woof in a square of one-half centimeter.	Sq. m...	1 95	1 56
	(75)	Of more than 26 or up to 38 threads of warp and woof in a square of one-half centimeter.	....do ...	2 90	2 32
	(76)	Of more than 38 and to 64 threads of warp and woof in a square of one-half centimeter.	....do ...	6 15	4 92
		Shirt-bosoms, of linen:			
	(77)	Plain, net weight.....	Kilo	5 75	4 60
	(78)	Embroidered, net weight.....	....do ...	8 30	6 64

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
28	.....	Flax, hemp, and jute manufactures—Continued.			
		Shirts, of linen:			
	(79)	Plain, white and colored, of all sizes, net weight.	Kilo	$3 80	$3 04
	(80)	Embroidered, of all sizes, net weight.....	...do ...	7 00	5 60
	(81)	Skirt-patterns, of linen, with or without embroidery, net weight.	.. do ...	4 30	3 44
	(82)	Socks, stockings underdrawers, and undershirts of linen stockinet, and all manufactures of linen stockinet not specified, net weight.	....do ...	2 00	1 60
	(83)	Thread, of crude hemp, fine or course, including such as is half twisted, of all sizes, in balls or skeins, net weight.	....do ...	16	13
	(84)	Thread, of linen or hemp, white or colored, including carded thread for long shawls (rebozos), net weight	....do ...	2 40	1 92
	(85)	Umbrellas, sunshades, and parasols of linen..... ...	Each ...	85	68
	(86)	Underdrawers, of linen cloth, of all sizes, net weight	Kilo	2 45	1 96
	(87)	Yarn (thread), of linen, hemp, or tow, white or colored, net weight.	....do ...	14	11
	(157)	Clothing, ready-made, and their separate parts, when they come sewed, of all classes and textures, of silk with mixture of cotton, linen, or wool, with or without trimmings of any material, and excepting those specified, net weight.	....do ..	12 00	10 00
		Cord, of hemp:			
	(158)	Covered with silk and cotton, or silk and wool, net weight.	....do ...	2 50	2 24
	(159)	Covered with silk, net weight.....	....do ...	6 00	4 80
	(160)	Corsets, of silk, with mixture of cotton, linen, or wool, of all sizes, net weight.	....do ...	3 80	3 04
	(161)	Elastic, of silk and rubber, with mixture of cotton, linen, or wool, of more than four centimeters in width, net weight.	....do ...	1 25	1 00
	(162)	Elastic, of silk and rubber, of more than four centimeters in width.	....do ...	1 40	1 12
		Elastic braid, cord, and ribbon:			
	(163)	Of cotton and silk, or of wool and silk, that measure up to four centimeters in width, net weight.	....do ...	4 70	3 76
	(164)	Of silk, which measure up to four centimeters in width.	....do ...	7 00	5 60
	(165)	Goods, whose warp and woof may be of cotton, linen, or wool, and have beside a mixture of silk in stripes, squares, flowers, or figures, and even when they contain in small quantity a mixture of metal, not gold or silver, net weight.	....do ...	3 50	2 80
	(166)	Goods, of cotton, linen, or wool, with mixture of silk, when the warp or the woof is of silk only, net weight.	....do ...	5 00	4 00
	(167)	Goods, of silk, when in the warp or woof there is a mixture of cotton, linen, or wool, net weight.	....do ...	7 50	6 00
		Rebozos (long shawls) and those textures, stamped, marbled, striped, with figures or designs that imitate rebozos:			
	(175)	Of silk, with mixture of cotton, linen, or wool, up to 26 threads of warp and woof in a square of one-half centimeter, net weight.	....do ...	9 40	7 52
	(176)	Of silk, with mixture of cotton, linen, or wool, of more than 26 up to 38 threads of warp and woof in a square of one half centimeter, net weight.	....do ...	13 75	11 00
	(177)	Of silk, with mixture of cotton, linen, or wool, of more than 38 up to 64 threads of warp and woof in a square of one-half centimeter, net weight.	....do ...	23 20	18 56
	(180)	Sarapes, imitation of those of Saltillo, worked or stamped, of wool, with mixture of silk, net weight.	....do ...	13 40	10 72
	(184)	Socks, stockings, underdrawers, and undershirts, of stockinnet, of silk, with mixture of cotton, linen, or wool, and all manufactures of this kind not specified, net weight.	....do ...	7 00	5 60
24	.....	Fruits, preserved:			
	(211)	In brine, net weight	....do ...	10	08
	(212)	Dried, net weight	....do ...	10	08
	(213)	In their own juice, legal weight	....do ...	55	44
	(214)	In brandy, legal weight.....	....do ...	80	64
	(215)	Fruits and vegetables, fresh, not specified, gross weight.	....do ...	01	01

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
24	.....	Fruits, preserved—Continued.			
	(223)	Olives, stuffed (prepared) or in oil, legal weight	Kilo	$0 10	$0 08
	(231)	Preserves, of all classes, with exception of those specified, legal weight.	do	80	64
25	.....	Furs:			
	(499)	Skins (fur), of all classes, unprepared, net weight.	do	10	08
	(614)	Beaver fur, of all classes, net weight	do	3 15	2 52
	(678)	Skin, of the vicugna, rabbit, hare and other similar, net weight.	do	1 60	1 28
26	.....	Glass and manufactures:			
	(249)	Beads (strings of cheap, light glass beads), of all classes and imitation pearls, net weight.	do	1 25	1 00
	(250)	Bottles, empty, of common glass, for bottling wines, liquors, beer, without allowance for breakage, gross weight.	do	08	02
	(255)	Crystal and ground glass in pieces of all forms, classes, and sizes, without mountings or inlaid work of any material, and with the exception of those specified, without allowance for breakage, gross weight.	do	20	16
	(256)	Crystal, cut, imitating fine stones, of all classes, gross weight.	do	1 30	1 04
	(257)	Crystals, for watches, and those separate for spectacles, gross weight.	do	45	36
	(258)	Demijohns, of all sizes, without allowance for breakage, gross weight.	do	03	02
	(264)	Mirrors, with or without frames, up to 30 centimeters on a side, without allowance for breakage, gross weight.	do	25	20
	(265)	Mirrors, with or without frames, of more than 30 centimeters on one of its sides, even when the others are less in size, without allowance for breakage, gross weight.	do	45	36
	(274)	Toys, of glass, crystal, earthenware, porcelain, or chinaware, of all classes and sizes, gross weight.	do	45	36
	(276)	Window-glass, of all classes and colors, without allowance for breakage, gross weight.	do	25	20
	(368)	Glass, for spectacles and lenses, set in any material except gold or silver, gross weight.	do	1 30	1 04
		Glasses:			
	(369)	Field and opera glasses, gross weight	do	1 25	1 00
	(370)	Spectacle, unmounted, classed as Nos. 6 and 8, and ordinary lenses for magnifying, of glass marked with the numbers 1, 2, and 3, gross weight.	do	30	24
	(637)	Flowers, artificial, and feathers, for ornaments, of all materials not silk, metal, glass, or porcelain, legal weight.	do	3 10	2 48
27	.....	Glucose, not stated.			
28	.....	Glue, not stated.			
27	.....	Gunpowder:			
	(443)	Common, for mines, gross weight	do	01	½
	(444)	Not given in the preceding number, gross weight.	do	1 10	88
	(437)	Caps, all kinds, percussion, gross weight	do	45	36
	(438)	Cartridges, loaded or not, for firearms, gross weight.	do	50	40
30	.....	Hair:			
	(645)	Human, net weight	do	11 00	8 80
	(127)	Of neat cattle	do	13	10
31	(635)	Hay, feed, dry, in straw, gross weight	do	01	½
32	(487)	Hides and skins, calf skins, patent leather, kid, chamois, and other prepared skins, not weight. (See, also, Furs, *ante*.)	do	1 55	1 24
33	(218)	Honey and molasses, net weight	do	08	06
34	(555)	Hops, net weight	do	20	16
35	(652)	Ice, gross weight	do	01	00½
36	.....	India-rubber and manufactures:			
	(410)	Apparatus of gum-elastic, gutta-percha, silk, and other materials for use in medicine and surgery, legal weight.	do	1 10	88
	(391)	Rubber, for erasing and mucilage, for writing-desks, gross weight.	do	30	24
	(613)	Bands of rubber, that do not come united to any machinery, forming part of it, gross weight.	do	20	16
	(693)	Tubing, of rubber or gutta-percha, of all dimensions, gross weight.	do	10	08

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
36	.....	India-rubber and manufactures—Continued.			
	(668)	Rubber, India, in sheets, when it does not come attached to any machinery in convenient form for being used upon it, gross weight.	Kilo	$0 10	$0 08
	(669)	Rubber, in strips, for cushions for billiard-tables, and spun into threads, gross weight.	....do ...	48	39
	(670)	Rubber, for foot wear, all forms and sizes, gross weight.	....do ...	50	40
	(671)	Rubber, in articles of dress, of all forms and sizes, gross weight.	....do ...	1 60	1 28
	(672)	Rubber, prepared for dentists, gross weights.....	....do ...	2 00	1 60
	(673)	Rubber cloth, suitable for making articles of dress or any other analogous use, gross weight.	....do ...	90	72
37	.....	Iron and steel, and manufactures:			
	(277)	Bars of steel, for mines, cylindrical or octagonal, gross weight.	....do ...	01	½
	(279)	Beams, iron, for roofs, provided they cannot be use for other objects in which iron is employed, gross weight.	....do ...	01	½
	(280)	Cable of iron or steel wire, of all thicknesses, gross weight.	....do ...	.01	.½
	(283)	Cots, of iron, for camp, including the covers and mattresses when they come attached to the same, gross weight.	....do ...	25	20
	(285)	Furniture, of iron, of all classes, with or without marble tops and mirrors, gross weight.	....do ...	25	20
	(288)	Iron, in pigs, gross weight.....	....do . .	01	½
	(289)	Iron, grooved, for roofs, gross weight.....	....do ...	04	03
	(290)	Iron, rolled (sheet-iron), beaten, cast, prepared for hoops, gross weight.	....do ...	10	08
	(291)	Iron, of all qualities, in bulk, round bars, plates, large hammers, shoes, and unwrought pieces of all sizes, including anvils, gross weight.	....do ...	07	06
	(296)	Knives, ordinary cutlasses, without sheaths (machetes), scythes, sickles, rakes, shovels, pickaxes, spades, hoes, and mattocks, of iron or steel, for agriculture, gross weight.	.. do ...	01	½
	(298)	Manufactures of iron or steel, not specified, gross weight.	.... do...	21	17
	(299)	Manufactures of iron, tinned, enameled, or japanned, gross weight.	....do ...	26	21
	(308)	Masks, of iron or steel wire, including those for fencing, each.	....do ...	45	36
	(309)	Nails and brads, of iron, of all sizes, gross weight..	....do ...	13	10
		Needles:			
	(310)	Not exceeding 5 centimeters in length, gross weight.	....do ..	95	76
	(311)	Exceeding 5 centimeters in length, gross weight.	....do ...	35	28
	(312)	Pens, of steel or other metal, not gold or silver, gross weight.	....do ...	95	76
		Scissors:			
	(315)	Wrought, of not more than 14 centimeters in length, gross weight	....do ..	95	76
	(316)	Wrought, of more than 14 centimeters in length, gross weight.	....do ...	30	24
	(317)	Cast, of all sizes, gross weight.....	....do ...	20	16
	(318)	Statues and busts, of iron, of natural sizes or larger dimensions, gross weight.	....do ...	10	08
	(321)	Steel, net weight	....do ...	07	06
	(327)	Tools and instruments, of iron, steel, brass, or wood, or composed of these materials, for artisans, gross weight.	....do ...	10	08
	(328)	Tubing, of iron, of all dimensions, gross weight ...	....do ...	01	½
		Wire, of iron or steel:			
	(331)	For carding, from No. 26 upward, gross weight.	....do ...	01	½
	(332)	Galvanized or not, with the exception of those specified, gross weight.	....do ...	10	08
	(333)	Wire, of iron, barbed, for fences, and the fasteners, provided they are imported with the same wire, gross weight.	....do ...	03	02
	(334)	Wire, iron, covered with cotton cloth, gross weight.	....do ...	15	12
	(335)	Wire, of iron or steel, dressed, for artificial flowers, gross weight.	....do ...	35	28
	(336)	Wire and hoops, of iron, with clasps and rivets, for fastening packages, gross weight.	....do ...	10	08
	(337)	Wire, manufactures of iron or steel wire, of all classes not specified, gross weight.	....do ...	25	20

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
38	.....	Jewelry:			
		Jewelry and all kinds of works of gold or platina:			
	(292)	With pearls or precious stones, net weight....	Hec'gram	$5 00	$4 00
	(293)	Without pearls or precious stones, net weight.	....do ...	4 00	3 20
		Jewelry and all classes of works of silver or of silver and gold:			
	(294)	With pearls or precious stones, net weight....	....do ...	3 50	2 80
	(295)	Without pearls or precious stones, net weight.	....do ...	2 50	2 00
39	.....	Lamps:			
	(253)	Crockery ware, porcelain and china-ware, made in pieces of all forms, classes, and sizes, without mountings or inlaid work of any material, and with the exception of those specified, gross weight.	Kilogram	15	12
	(255)	Crystal and ground glass, in pieces of all forms, classes, and sizes, without mountings or inlaid work of any material, and with the exception of those specified, without allowance for breakage, gross weight.	....do ...	20	16
	(301)	Manufactures of copper, brass, bronze, or any other alloy of common metals, without gilding or plating, not specified, gross weight.	....do ...	30	24
	(303)	Manufacturers of copper, brass, or any other common metal, gilded, plated or, nickel-plated, not specified, gross weight. (Also, according to materials.)	....do ...	1 30	1 04
40	.....	Lead and manufactures:			
	(297)	Lead, in bulk in block or sheets, gross weight	....do ...	07	06
	(436)	Ammunition, lead, gross weight	....do ...	07	06
41	.....	Leather and manufactures:			
	(481)	Bands (belting), of leather, when they do not come attached to any machinery forming a part of it, gross weight.	....do ...	50	40
	(482)	Blinders, of leather, gross weight	....do ...	30	24
		Boots and half boots:			
	(483)	Of cow-hide	Pair	1 50	1 20
	(484)	Of calf-skin, or patent leather.....	....do ...	2 50	2 00
	(485)	Bridles and reins, of leather or any other material, gross weight.	Kilo	65	52
	(486)	Buckles (clasps), of brass or iron, covered with leather, gross weight.	....do ...	20	16
	(487)	Calf-skins, patent leather, kid, chamois, and other prepared skins, net weight.	....do ...	1 55	1 24
	(488)	Gaiters, of leather or cloth, other than silk, with or without elastic and ornaments.	Pair	90	72
	(490)	Gloves, plastrons, and leggings, for fencing	Piece ...	30	24
		Gloves of skin, of all classes, plain or embroidered:			
	(491)	Unlined, net weight	Kilo	6 00	4 80
	(492)	Lined, net weight	....do ...	3 25	2 60
	(493)	Harnesses for carriages, gross weight	....do ...	1 50	1 20
	(494)	Leather, manufactures of, not specified, gross weight.	....do ...	60	48
	(496)	Saddles, of all classes, with or without ornaments, not of gold or silver, net weight.	....do ...	2 00	1 60
		Shoes, low:			
	(497)	Of leather or material other than silk, with or without adornments.	Pair	45	36
	(498)	Of silk, with or without ornaments	....do ...	80	64
	(500)	Slippers, or low shoes, of leather, or other material which do not contain silk or metal.	....do ...	40	32
	(501)	Uppers, for slippers, of leather or cloth, which do not contain silk or metal, net weight.	....do ...	75	60
	(502)	Uppers, for gaiters, unsoled, of leather or cloth, other than silk, with or without ornaments, net weight.	....do ...	3 30	2 64
42	.....	Lime and cement:			
	(262)	Lime, hydraulic, gross weight	....do ...	01	01
	(261)	Gypsum, manufactures of, or of stucco, not specified, gross weight.	....do ...	20	16
43	.....	Malt liquors:			
		Beer and cider:			
	(190)	In bottles, without allowance for leakage or breakage, net weight.	....do ...	30	24
	(191)	In barrels, without allowance for leakage or drums, net weight.	....do ...	20	16
		Ginger beer in bottles. (See Beer in bottles.)			

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
44	.....	Medical instruments:			
	(558)	Injections, of all substances, legal weight	Kilo	$0 53	$0 44
	(566)	Medicine chests, with flasks full or empty, net weight.	do	45	36
	(601)	Test cases, gross weight	do	3 30	2 64
	(410)	Apparatus, of gum-elastic, gutta-percha, silk, and other materials, for use in medicine and surgery, legal weight.	do	1 10	88
	(393)	Scientific instruments, gross weight	do	01	‡
45	.....	Naval stores, resin, tar, turpentine, and pitch:			
	(599)	Tar or pitch (resin), gross weight (Otherwise not classified.)	do	04	03
46	.....	Oil cake and meal, not stated.			
47	.....	Oils, animal, mineral, and vegetable:			
	(524)	Castoreum, legal weight	do	4 70	3 76
	(550)	Fish oil, of all classes, and cod liver oil, pure or prepared, in any form, legal weight.	do	10	08
	(551)	Fixed oils, not specified, except olive oil, legal weight.	do	55	44
	(552)	Glycerine, gross weight	do	10	08
	(563)	Linseed oil, net weight	do	25	20
	(570)	Naphthaline, legal weight	do	1 30	1 04
	(606)	Volatile or essential oils, excepting those rated, legal weight.	do	4 40	3 62
	(664)	Petroleum, or coal oil, purified, without allowance for leakage, net weight.	do	10	08
		Gasoline. (See Petroleum.)			
	(665)	Petroleum, crude, or naphtha, gross weight	do	01	‡
		Olive oil:			
	(221)	(In jugs or tin cans, without allowance for breakage, net weight.	do	51	12
	(222)	In glass vessels, without allowance for leakage or breakage, net weight.	do	20	16
	(663)	Perfumery, not specified, gross weight	do	95	76
48	.....	Paraffine and wax:			
	(694)	Wax, white or brown, net weight	do	55	44
	(695)	Wax, virgin, net weight	do	50	40
49	.....	Paints:			
	(385)	Paints, in boxes, of all classes, gross weight	do	35	28
	(535)	Colors, crude or prepared, legal weight	do	15	12
50	.....	Paper and manufactures:			
	(462)	Albums, with or without (places for?) photographs, with covers and ornaments of all materials not gold or silver, gross weight.	do	1 10	88
	(463)	Blank books, ruled or with spaces for writing, with ordinary binding, gross weight.	do	95	76
		Books:			
	(464)	Bound in velvet, shell, ivory, tortoise-shell, or metal, not gold or silver, gross weight.	do	1 25	1 00
	(465)	Bound in gutta-percha, wood, or composition, gross weight.	do	1 00	80
	(466)	Printed, in paper covers, or bound, other than those specified, gross weight.	do	01	‡
	(467)	Brown paper and wrapping paper, gross weight	do	08	06
	(468)	Charts, geographical, topographical, and nautical, gross weight.	do	01	‡
	(469)	Documents (forms, of all classes), printed, engraved, or lithographed, with or without spaces for writing on them, gross weight.	do	65	52
	(470)	Music, periodicals, and advertisements, printed, gross weight.	do	01	‡
	(471)	Paper or pasteboard, manufactures of, of all classes, gross weight.	do	45	36
		Paper:			
	(472)	Sized or unsized, unglossed, and blotting paper, of all colors, gross weight.	do	10	08
	(473)	Very white, moderately white, for accounts and letters, of all classes, and that for cigarettes, gross weight.	do	32	26
	(474)	Engraved or lithographed, for envelopes or tickets, gross weight.	do	65	52
	(475)	For walls, not gilt, silver, or velvet finish, gross weight.	do	12	10
	(476)	Pitched, tarred, cloth-lined, and impermeable, gross weight.	do	07	06
	(477)	All classes and colors, not specified, gross weight.	do	20	16

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
50	.....	Paper and manufactures—Continued.			
		Pasteboard:			
	(488)	All thicknesses, beaten or not, excepting those specified, gross weight.	Kilo	$0 20	$0 16
	(479)	In large sheets, medium sheets, bristol board, albumenized, porcelain paper, and that used for making playing cards, gross weight.	....do ...	48	38
	(480)	Playing cards of all classes, gross weight.....	....do ...	1 05	84
	(392)	Sandpaper, gross weight.	....do ...	06	05
	(656)	Manufactures of straw or reed, not specified, gross weight.	....do ...	45	36
51	.....	Plated ware:			
	(303)	Manufactures of copper, brass, or any other common metal, gilded, plated, or nickel-plated, not specified, gross weight. (Not otherwise specially classified.)	....do ...	1 30	1 04
52	.....	Provisions:			
	(200)	Meats, fresh, fresh beef, pork and fowl meat.	....do ...	25	20
	(236)	Salt, sausages of all kinds, or smoked or salted meats, including ham, net weight.	....do ...	25	20
		Oleomargarine, not stated.			
	(216)	Lard, net weight	....do ...	20	16
	(194)	Butter, net weight	....do ...	25	20
	(197)	Cheese, of all classes, net weight.....	....do ...	15	12
53	.....	Quicksilver.....	Free	.....	.....
54	.....	Seeds:			
	(666)	Plants and seeds for the improvement of agriculture, except those quoted, gross weight.	Kilos ...	01	‡
	(195)	Canary seed.....	...do ...	08	06
	(196)	Canary seed and anise, net weight	....do ...	10	08
	(209)	Cummin seed, net weight	....do ...	08	06
	(226)	Peas (Spanish), beans, and chick peas, gross weight	....do ...	02	01
	(518)	Barks, herbs, leaves, flowers, fruits, seeds, and roots (medicinal), gross weight.	....do ...	20	16
55	.....	Soap:			
	(679)	Common, not perfumed, gross weight	....do ..	18	14
	(680)	Fine, with or without perfume, gross weight.....	....do ...	1 25	1 00
	(592)	Medicinal, gross weight.....	....do ...	30	24
56	.....	Spirits:			
	(193)	Brandies, of all classes, in glass or wooden vessels, without allowance for leakage, breakage, or drums, net weight.	....do ...	75	60
	(217)	Liquors, of all classes, in glass or wooden vessels, without allowance for breakage, leakage, or drums, net weight.	....do ...	40	32
	(508)	Alcohol or spirits of wine (cognac), net weight.....	....do ...	90	72
		Anisado. (See Brandies.)			
		Anisete. (See Liquors.)			
		Arrack. (See Brandies.)			
		Kirsch-wasser. (See Brandies.)			
		Marrasquino. (See Liquors.)			
		Rum. (See Brandies.)			
		Spirits of wine. (See Alcohol.)			
		Whisky. (See Brandies.)			
57	(594)	Starch, washing, gross weight.....	....do ...	08	06
58	.....	Sugar:			
	(237)	Common or refined, of all classes, gross weight	....do ...	15	12
	(218)	Molasses and honey, net weight.....	....do ...	08	06
59	.....	Tin:			
	(322)	Block tin, or in grain, gross weight.....	....do ...	30	24
	(323)	Block tin, in sheets, leaves, and other manufactures, not specified, gross weight.	....do ...	35	28
		Tin plate:			
	(324)	In sheets of all thicknesses and dimensions, gross weight.	....do ...	07	06
	(325)	Manufactured in all classes of works, not specified, gross weight.	....do ...	25	20
	(326)	Manufactured, in all kind of works, enameled or japanned, not specified, gross weight.	....do ...	30	24
60	.....	Tobacco, leaf, cigars, cigarettes:			
		Tobacco:			
	(685)	Plug, for chewing, net weight.....	....do ...	68	54
	(686)	Fine cut, net weight	....do ...	1 10	88
	(688)	In the leaf, not Virginia, net weight.....	....do ...	1 37	1 09
	(689)	Virginia, in the leaf, net weight	....do ...	18	14
	(690)	Made into cigarettes, of all classes, legal weight	....do ...	1 37	1 09
	(691)	Made into cigars, net weight	....do ...	5 40	4 32
	(692)	Smoking, net weight	....do ...	1 37	1 09

Import duties of Mexico—Continued.

Circular No.	Mexican tariff No.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
67	.....	Vegetables:			
	(215)	Fruits and vegetables, fresh, not specified, gross weight.	Kilos ...	$0 01	$0 00½
	(241)	Vegetables, preserved, of all classes, in juice or dry, legal weight.	....do ...	40	32
	(224)	Onions, fresh, gross weight	....do ...	03	02
	(226)	Peas (Spanish), beans, and chick peas, gross weight	....do ...	02	01
	(228)	Peppers, large, unprepared, or in oil or powder, legal weight.	....do ...	50	40
	(230)	Potatoes, gross weight	....do ...	03	02
		Garlic, fresh, like Onions.			
62	.....	Wood and manufactures:			
	(449)	Barrels and boxes, of ordinary wood, empty, for packing, gross weight.	....do ...	05	04
	(450)	Boxwood, gross weight	....do ...	01	½
	(451)	Corks, plugs, or bungs, of wood, gross weight	....do ...	06	05
	(452)	Cots, of wood, for camp, including the covers and mattresses when they come attached to the same, gross weight.	....do ...	16	13
	(453)	Frames and mouldings, gilded or ungilded, gross weight.	....do ...	45	36
	(454)	Furniture, of all classes:			
		Of ordinary wood, whether painted or varnished or not, including furniture, of reed or bent wood, with or without marble tops or mirrors, gross weight.	....do ...	15	12
	(455)	Of fine woods, veneered or solid, and that covered with skin or any goods not containing silk, and with or without marble tops or mirrors, gross weight.	....do ...	25	20
	(456)	Furniture, of all classes and materials, with inlaid or ornaments of shell, ivory, tortoise-shell, or metal, not gold or silver, and those covered with goods of silk or goods containing silk, and with or without marble tops or mirrors, gross weight.	....do ...	35	28
	(457)	Handles and helves for tools, gross weight	....do ...	10	08
	(458)	Hubs, posts, and spokes, of wood, for carriages, gross weight.	....do ...	06	05
	(459)	Manufactures of wood not specified, gross weight	....do ...	30	24
	(460)	Staves and heading, of wood, for barrels, gross weight.	....do ...	01	½
	(461)	Wood, ordinary, cut, for boxes for packing, gross weight.	....do ...	02	01
	(309)	Shoe pegs	....do ...	13	10
	(458)	Rough wooden poles for steel lances	....do ...	06	05
	(494)	Wooden valises, lined with straw	....do ...	60	48
	(454)	Common wooden furniture with common upholstery	....do ...	15	12
	(656)	Wooden cloth	....do ...	45	36
	(635)	Wood shavings for furniture stuffing	....do ...	01	½
	(458)	Wooden hoops for car awnings	....do ...	06	05
	(460)	Barrel hoops, of wood	....do ...	01	½
	(5)	Masts for large or small vessels	Free ...	.....	.....
	(8)	Houses, complete, of wood or iron	....do ...	.....	.....
	(10)	Vessels of all kinds, on their naturalization, sale, or introduction.	....do ...	.....	.....
	(13)	Wood	....do ...	.....	.....
	(14)	Timber (lumber)	....do ...	.....	.....
	(20)	Oars for vessels	....do ...	.....	.....
63	.....	Wool:			
	(127)	In the fleece, net weight	Kilo	13	10
	(128)	Carded, net weight	....do ...	20	16
64	.....	Zinc:			
	(341)	In sheets, gross weight	....do ...	10	08
		Manufactures of zinc:			
	(304)	Not specified, gross weight	....do ...	25	20
	(305)	Enameled, tinned, or japanned, not specified, gross weight.	....do ...	30	24

The full tariff of Mexico was printed in Consular Reports No. 53½; the later modifications in No. 71, p. 401.

CENTRAL AMERICA.

HONDURAS.

Customs tariff of Honduras.

[Report of Vice-Consul George Bernhard.]

Number.	Tariff classification.	Unit.	Duty.	*Equivalent in United States money.
1	Agricultural implements		Free	
2	Animals		Free	
3	Art works	Pound†	$1.50	$1 20
4	Bark and extracts	do	.24	19½
5	Blacking	do	.08	06½
6	Bones, hoops, horns, &c		Free	
7	Books, maps, engravings		Free	
8	Brass and manufacturers of:			
	Bruto weight	Pound	.02	01½
	Manufactured	do	.04	03½
9	Breadstuffs:			
	Barley	do	.02	01½
	Bread and biscuits	do	.02	01½
	Indian corn		Free	
	Oats		Free	
	Rye		Free	
	Wheat		Free	
	Flour		Free	
10	Bucks		Free	
11	Brooms and brushes	Pound	.08	06½
12	Candles	do	.04	03½
13	Carriages and horse cars		Free	
14	Cars (railroad, steam)		Free	
15	Chemicals	Pound	.24	19½
16	Clocks and watches:			
	Clocks	do	.24	19½
	Watches	do	1.50	1 20
17	Coal		Free	
18	Copper:			
	Ore	Pound	.02	01½
	Ingots, bar	do	.02	01½
	Sheet	do	.02	01½
19	Cotton	do	.02	01½
	Manufactures	do	$0.12 to .24	$0 09½ to 19½
20	Earthen, stone, and china ware, according to quality	do	.02 and .04	0 01½ to 03½
21	Fertilizers		Free	
22	Fish	Pound	.02	01½
23	Flax, hemp, and jute	do	.02	01½
	Manufactures	do	1.50	1 20
24	Fruits, preserved	do	.08	06½
25	Furs	do	.50	40
26	Glass	do	.02	01½
	Manufactures	do	.02	01½
27	Glucose, according to quality	do	.12 and .14	0 09½ to 11½
28	Glue	do	.12 and .14	0 09½ to 11½
29	Gunpowder, monopoly of the Government.			
30	Hair (human)	do	1.50	1 20
31	Hay		Free	
32	Hides and skins, according to quality	Pound	12 and .30	0 09½ to 24
33	Honey	do	.02	01½
34	Hops	do	.02	01½
35	Ice		Free	
36	India-rubber, manufactured	Pound	.12	09
37	Iron and steel	do	.02	01½
	Manufactures	do	.04	03½

*Premium, 25 per cent. †Bruto weight.

Customs tariff of Honduras—Continued.

Number.	Tariff classification.	Unit.	Duty.	*Equivalent in United States money.
38	Jewelry:			
	Gold	Pound	$1.50	$1 20
	Duble.	do	.50	40
39	Lamps	do	.04	0 03½
40	Lead	do	.04	03½
	Manufactures	do	.12	09½
41	Leather	do	.12	09½
	Manufactures	do	.30	24
42	Lime and cement		Free	
43	Malt liquors	Pound	.08	06½
44	Medical instruments	do	.12	09½
45	Naval stores:			
	Rosin	do	.02	01½
	Tar	do	.02	01½
	Turpentine and pitch	do	.02	01½
46	Oil-cakes and meal	do	.02	01½
47	Oils:			
	Animal	do	.02	01½
	Mineral	do	.02	01½
	Vegetable	do	.02	01½
48	Paraffine and wax:			
	Paraffine	do	.02	01½
	Wax	do	.18	14½
49	Paints	do	.02	
50	Paper, manufactures, according to quality	do	4, 8, 12 to .24 cents.	3½, 6½, 9½ to 19½ cents.
51	Plated ware	Pound	$1.50	$1 20
52	Provisions:			
	Meats:			
	Fresh		Free	
	Salt	Pound	.02	01½
	Oleomargarine	do	.04	03½
	Lard	do	.04	03½
	Butter	do	.04	03½
	Cheese	do	.04	03½
53	Quicksilver	do	.02	01½
54	Seeds		Free	
55	Soap:			
	Common	Pound	.02	01½
	Scented	do	.12	09½
56	Spirits	dof	.08	06½
57	Starch	do	.02	01½
58	Sugar	do	.02	01½
	Molasses	do	.02	01½
59	Tin	do	.02	01½
60	Tobacco:			
	Leaf	do	.50	40
	Cigars (Government monopoly)			
	Cigarettes	Pound	.80	64
61	Vegetables		Free	
62	Wood		Free	
	Manufactures	Pound	.02	01½
63	Wool	do	.04	03½
64	Zinc	do	.02	01½

* Premium 25 per cent. † Bruto weight.

NICARAGUA.

Customs tariff of Nicaragua.

[Prepared by Consul Charles H. Wills.]

No.	Tariff classification.	Tariff rates of duty.*	Equivalent in U. S. money.†
1	Agricultural implements: Hand-pumps for wells and tanks, hydraulic pumps, garden tools, hydraulic lime and Portland cement, cultivators, plows, fencing wire, and accessories; shellers, harrows, presses, seeds of all kind, guano and other manure, all sorts of machinery or parts thereof, mills of any kind, iron tanks for water, pruning shears, lime and quicklime	Free	
2	Animals, alive or stuffed, or otherwise prepared	Free	
3	Art work:		
	Stationery	$0.09	$0.062
	Paintings, lithographs, or photos, loose or in frames, with or without glasses	.60	.414
4	Barks and extracts:		
	If medicines and drugs	.18	.124
	Cork-bark and goods thereof	.12	.083
5	Blacking to black boots and other things, also varnishes	.09	.062
6	Bones, hoofs, and horns (of no use or value in this country):		
	Common buttons	.30	.207
	Other goods manufactured	.48	.33
	Ivory goods	1.80	1.24
	Tortoise-shell goods	2.40	1.66
7	Books, maps, engravings	Free	
	Pictures on paper (saints, &c.)	.15	.104
8	Brass, and all goods thereof	.15	.104
9	Breadstuffs:		
	All sorts of grain	Free	
	Bread, biscuits, and all paste, as macaroni	.03.6	.0248
	Flour	.01.2	.00828
	Linseed	.06	.0414
10	Bricks		
11	Brooms	.03	.02
	Brushes of all kinds	.30	.207
12	Candles: Sperm, tallow, or composition	.09	.062
13	Carriages, carts, and wheelbarrows	.09	.062
14	Cars, railroad and steam, would have to pay duties as above, but any enterprising corporation will get permit to bring in free.		
15	Chemicals:		
	Etheric oils	6.00	4.14
	Enamel	.90	.62
	Cochineal	.30	.207
	All other preparations, drugs, extracts, gums, and oils	.18	.124
	Carbonate of lime, Spanish whiting, bleaching lime, and natron	.09	.062
	Saltpetre	.06	.0414
	Epsom and Glauber salts	.03	.02
	Table salt	.01.2	.00828
16	Clocks, all kinds	.15	.1035
	Watches, gold and silver	12.00	8.28
	Watches, imitation gold and silver, and nickel	6.00	4.14
17	Coal, fossil, and animal	Free	
18	Copper:		
	Ingots, bars, and sheets	.09	.062
	Manufactured	.18	.124
	Stills, but only with special permit	Free	
	Percussion caps	.30	.208
	Cartridges, only upon special permit	.30	.208
19	Cotton:		
	Raw, with or without seeds	.03	.02
	Canvas for worsted	.02.4	.01656
	Thread for wicks or weaving	.09	.062
	Gray cloth, brown cloth, unbleached	.09.6	.662
	Cosin, denims, sail-cloth	.15	.104
	Damasks, blankets, rugs, towels, all brocaded weft, bleached cotton cloth (white goods), shirting, sheeting, drillings, pique, satin for men's wear, ginghams, zephyrs, and similar stuffs, cotton bags; thread, white or colored	.18	.124
	Ribbons and tapes of all kind	.24	.166
	Beaverteen and mole-skin	.27	.1863

* Per Spanish pounds. All duties paid upon gross weight. No tare of any kind allowed. 100 English pounds equal to 101.6 Spanish pounds.

† Per English pound.

Customs tariff of Nicaragua—Continued.

No.	Tariff classification.	Tariff rates of duty.	Equivalent in U. S. money.
19	Cotton—Continued.		
	Satins, brocaded stuff for ladies' wear	$0.30	$0.208
	Hose and similar make of any kind	.30	.208
	Common and fine prints, linings, and badanas	.24	.166
	Italian cloth; gambroons for ladies, lawns, bookmuslins; plain, embroidered, white, or colored; muslin, printed, white, colored, or brocaded	.36	.248
	Embroidered handkerchiefs of any kind, and shirts and undershirts; breasts, collars and cuffs; pantaloons, coats, vests, drawers, white or colored, plain or trimmed, for men or women; corsets, cotton-plush, velveteen or similar stuffs, belts, suspenders, &c	.42	.29
	Shirts with linen breasts and fronts, also common trimming braids	.60	.414
	Fringes, tulle, ladies' patterns in cuts; curtain nets and all sorts of trimming	.72	.497
	Laces, embroidery, edging	.90	.621
20	Earthen, stone, and china ware	.018	.0124
21	Fertilizers	Free	
22	Fish and meats of all sorts for food, derived from the animal kingdom, dry or preserved	.09	.062
23	Flax, hemp, and jute:		
	Oakum	.024	.0166
	Jute, gunny or hemp bags	.03	.028
	Saddlebags, hammocks, or similar articles made of fiber	.06	.0414
	Cords and lines; ropes of any kind	.06	.0414
	Threads of all kind; sail-cloth, canvas for cots and stretchers	.18	.124
	Table-cloths, napkins, towels, and all brocaded stuff in pieces	.24	.166
	Coarse linen stuffs, bleached and unbleached; sheeting and all drillings	.30	.208
	Fine and plain linen cloth, lawns, batist, handkerchiefs and shawls, plain and brocaded	.72	.497
	Shirts, fronts, collars and cuffs, white or colored; ready-made clothing for ladies and gentlemen; laces, fringes, and all kind of trimmings	.120	.828
	(Cotton goods mixed with linen or hemp pay duties as linen goods.)		
	Straw hats for men or children	.36	.248
	Panama hats	4.80	$3 31
24	Fruits:		
	Olives and vegetables preserved, all kinds	.036	.0248
	Almonds, nuts; all fresh and dry fruit, evaporated or preserved in sugar or honey, sweet spirit, or any sweet liquor	.09	.062
25	Furs (in the tropics none used) would go as skins	.24	.162
26	Glass in sheets, bottles:		
	Drinking glasses and lamp tubes	.06	.0414
	Candelabra, lusters, flower-vases, and such like	.12	.0828
	Physical, chirurgical, and chemical	Free	
	Looking-glasses, all kinds	.15	.104
27	Glucose, as sugar of all kinds	.048	.033
28	Glue	.072	.0497
29	Gunpowder:		
	Importation prohibited. (Government monopoly.)		
	Explosives for mines only with special permit by the Government	.60	.414
30	Hair:		
	Hog and horse hair	.06	.0414
	For ladies' and gentlemen's wear	.36	.248
31	Hay. (None used here.)		
32	Hides and skins. (None are imported as skins, but could go as dry animal skin.)		
33	Honey, as sweets	.15	.104
34	Hops, as drugs	.18	.124
35	Ice. Not mentioned in the list.		
36	India-rubber goods:		
	India-rubber and gutta-percha made up, no admixture of any kind, and boot elastics	.48	.332
	Rubber and such like mixed with linen, cotton, or hemp, table-covers and india-rubber overcoats	.24	.166
37	Iron and steel:		
	All sorts of machinery	Free	
	Guns and cannons for troops. (Prohibited.)	.012	
	Ingots or plates		.00828
	Manufactured tools	.03	.027
	Shovels and spades	.06	.0414
	Buckles for pants, saddles, harness and similar use	.09	.062
	All manufacured goods by tinsmiths	.09	.062

Customs tariff of Nicaragua—Continued.

No.	Tariff classification.	Tariff rates of duty.	Equivalent in U. S. money.
37	Iron and steel—Continued.		
	Furniture	$0.12	$0.0828
	Machetes and bush-knives and swords, with or without sheath	.15	.104
	Common percussion guns, smooth-bore	.15	.104
	Pen-holders, pens, pencils, and pencil-cases	.18	.124
	Precision and repeating rifles, rifled barrels, or with special permit of the Government.	.30	.207
	Measures and rules for all trades, knives, penknives, razors, scissors, shears, and knives for table use, and such-like goods.	.45	.315
	Pins, hooks and eyes, and fish-hooks, of any kind and metal	.75	.5175
	Buttons made of any kind of metal, swords and sabres, with sheaths, buckles for braces and belts of any kind.	.90	.62
	Pistols and revolvers	1.50	1.035
38	Jewelry:		
	Fans of any kind	.90	.62
	Gold and silver imitation of jewelry	6.00	4.14
	Imitation of jet, coral, or pearls, of any material	.90	.62
	Solid gold and silver jewels, also gold and silver watches	12.00	8.28
	Jewelry, with precious stones	21.00	14.50
	Brilliants, pearls, and precious stones, alone	36.00	24.84
	Coral, raw and manufactured	4.80	3.32
	Imitations of precious stones	1.20	.827
39	Lamps, candelabra, lustres, lamps and lanterns, of all kinds	.15	.104
40	Lead, raw and manufactured	.048	.0332
41	Leather, of any kind	.24	.166
	Bellows, all kinds	.18	.124
	Leather and skins, manufactured	.45	.31
	Ordinary and common shoes and boots	.48	.332
	Shoes and boots for gentlemen, and whips	.60	.414
	Shoes and boots for ladies	.75	.5175
	Gloves	1.20	.827
42	Lime and cement	Free	
	Plaster of Paris and chalk	.019	.0124
43	Malt liquors:		
	Beer	.03	.022
	Vinegar	.024	.0166
44	Medical instruments	Free.	
45	Naval stores, all kinds	.024	.0166
46	Oil-cake and meal, as fertilizers	Free	
47	Oils, animal and vegetable:		
	Raw	.42	.29
	Perfumed	.12	.083
	Mineral, and all composition used for lighting	.012	.00827
48	Paraffine and wax, raw and manufactured	.18	.124
49	Paints and colors, all	.06	.0414
	Ink, for writing	.024	.0166
50	Paper and cardboard	.03	.027
	Paper for periodicals, if not under size, 29 by 20, and lined for music.	Free	
	Blank books of all kinds	.06	.0414
	Glass and emery paper	.18	.124
	Wall-paper, trimmings, and dolls	.30	.207
	Playing cards	.48	.332
	Fans, and anything used for material in artificial flower making	.90	.62
	Masks of any kind	1.20	.827
51	Plated ware, as gold and silver ware:		
	From	6.00	4.14
	To	12.00	8.28
52	Provisions:		
	Meats, fresh and salt	.09	.062
	Oleomargarine, lard, butter, cheese, tallow, and all animal fats	.06	.0414
	Animal fats, perfumed	.12	.088
53	Quicksilver	Free	
54	Seeds	Free	
	Only linseed	.06	.0414
55	Soap:		
	Common	.024	.0166
	Perfumed	.12	.0827
56	Spirits, Government monopoly:		
	Pay, if above 12° to 25° Carthier, each bottle	.48	.332
	About 6 of these bottles to the imported gallon, with special permit of the Government; if more than 25° Carthier as allowed, each bottle has then to pay extra $0.036 for each degree additional.		
57	Starch, as sago and maizena	.06	.0414
58	Sugar and molasses	.048	.0332
	Confection, and all kinds of sweets	.15	.104
59	Tin bars and plates	.06	.0414
	Manufactured	.12	.0828

Customs tariff of Nicaragua—Continued.

No.	Tariff classification.	Tariff rates of duty.	Equivalent in U. S. money.
60	Tobacco, Government monopoly:		
	Importation prohibited, and only Havana tobacco allowed by special permit.	$1.20	$0.827
	Chewing tobacco (allowed)	.60	.414
61	Vegetables, preserved	.033	.0248
62	Wood:		
	For machinery and church organs	Free	
	Lumber for building and barrels	.006	.00414
	Pails, tubs, and molds	.024	.0166
	Sulphur matches	.06	.0414
	Furniture, pianos, and organs	.12	.0828
	Musical instruments, other kind	.18	
	Pencils	.18	.124
	Carriages, carts, and wheelbarrows	.09	.062
	Mouldings, frames, and smoking pipes, of any kind and material	.24	.166
	Billiards	.36	.2484
	Buttons	.30	.207
	Chess, drawing-boards, dominoes, and kanes	.60	.414
	Fans	.90	.62
63	Wool, only manufactured imported:		
	Alpaca, merino, or any other light fabric of wool, gloves, hose of all kind, shirts of all kinds.	.60	.414
	Rugs, and dyed sheepskins with wool on	.60	.414
	Cassimeres, broadcloth, serge, and flannels	.75	.5175
	Carpets, tablecloths, and curtains	.42	.29
	Blankets, rugs, pouches	.24	.1656
	Saddlecloths	.30	.207
	Common wool stuffs, homespuns	.42	.29
	Thread for sewing and embroidering hats for ladies, of all kinds, and wool hats for men.	.72	.497
	Brocaded stuff in pieces, fringes, laces, handkerchiefs, ladies scarfs, and shawls.	1.20	.828
	Tape, ribbons, and braid	.75	.5145
	Pants and clothing for men, ready-made	.90	.62
	Lawns, nets, muslins, or any other fine stuff for ladies	1.80	1.24
	Ladies dresses made up, or in fancy cuts	3.00	2.07
	Goods mixed with wool, cotton or linen pay duties as woolen goods.		
64	Zinc:		
	Bars and plates	.06	.0414
	Manufactured	.12	.0828
	Not mentioned in circular but dutiable:		
	Bitters of any kind, to mix drinks	.24	.166
	Bricks	.012	.00828
	Building stones	.006	.00414
	Cocoa and coffee, manufactured	.12	.0828
	Cologne water	.09	.062
	Feather-beds and pillows	.42	.29
	Feather-dusters and feathers for trimmings	.90	.62
	Fireworks	.15	.104
	Florida-water	.09	.062
	Flowers, artificial, or any material to make them	.90	.62
	Fusees, to light pipes and cigars	.30	.207
	Metal threads and powders	.90	.62
	Metal, spun, for church ornaments, or military uniforms	1.20	.828
	Marble, raw	.012	.0828
	Mineral and gaseous waters and acidulated drinks	.024	.0166
	Perfumery of all kinds	.12	.0828
	Palm, and rattan split, &c.	.06	.0414
	Sealing wax and wafers	.30	.207
	Slates	.006	.00414
	Spectacles, if not in gold or silver	1.20	.828
	Spices of all kind	.048	.0332
	Sponges	1.20	.828
	Strings for instruments	.75	.5175
	Silk:		
	Threads of any kind	2.40	1.66
	All manufactured, or goods mixed with silk	3.00	2.07
	Umbrellas and sunshades:		
	Cotton	.30	.207
	Silk and other stuff	.60	.414
	Water-filters	.03	.207
	Wines	.048	.0332
	Whalebone, raw and manufactured	.48	.332
	Whetstones and flints	.03	.027

SALVADOR.

NOTE BY CONSUL.—On the appraisement given in the tariff 52 per cent. is paid in money and 20 per cent. in Government paper, which is at present (June, 1886) bought at much below par; besides this there are small taxes levied on the weight and bulk of merchandise that passes through the custom-house, and which are collected for the charitable institutions of the country.

Tariff on products and manufactures of the United States.

[Prepared by Consul J. Maurice Duke.]

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
1	Agricultural implements, 5 per cent. ad valorem			
2	Animals of any kind, 5 per cent. ad valorem			
3	Art works, 5 per cent. ad valorem			
4	Bark, and extracts	Pound	$2.00	$1.502
5	Blacking	do	.10	.0751
6	Bones, hoofs, horns, &c., not rated			
7	Books, maps, engravings, &c., 5 per cent. ad valorem			
8	Brass, and manufactures of	Pound	.38	.28538
9	Breadstuffs:			
	Barley:			
	In the husk	do	.02	.01502
	Without the husk	do	.03	.02253
	Bread, not rated			
	Biscuits, gross weight	Pound	.04	.03004
	Biscuits, fine, gross weight	do	.10	.0751
	Indian corn	Free		
	Oats, not rated			
	Rye, not rated			
	Wheat	Pound	.02	.01502
	Flour	do	.03	.02253
10	Bucks (lye)	do	.04	.03004
11	Brooms	Dozen	2.00	1.502
	Brushes:			
	Tooth	do	.04	.3004
	Ivory or tortoise shell	do	2.00	1.502
	Shoe	do	.70	.5257
	Clothes	do	4.00	3.004
	Hair	do	3.00	2.253
	Nail	do	1.00	.751
	Shaving	do	2.00	1.502
	Scrubbing	do	1.00	.751
	Horse	do	2.00	1.502
12	Candles	Pound	.08	.06008
13	Carriages:			
	Two wheels	Each	120.00	90.12
	Four wheels	do	200.00	150.20
14	Cars of any kind, 5 per cent. ad valorem			
15	Chemicals:			
	Acids:			
	Benzoic	Pound	5.60	4.2056
	Chromic	do	6.40	4.8064
	Chrysophanic	do	6.40	4.8064
	Formic	do	6.40	4.8064
	Gallic	do	12.00	9.012
	Hydrochloric	do	1.00	.0751
	Salicylic	do	2.00	1.502
	Tannic and prussic	do	4.00	3.004
	Acetic, muriatic, nitric, oxalic, and sulphuric	do	.10	.0751
	Aconitin, digitalin, and myricin	do	1.60	1.2016
	Aloin	do	16.00	12.016
	Alum	do	.04	.03004
	Ambergris	do	282.00	150.212
	Ammonium, arsenate, benzoate, bromide, hypophosphite, salicylate, valerianate, and iodide of.	do	6.40	4.8064
	Ammonia, liquid or in salt, not denominated	do	.20	.1502
	Apiol	do	12.80	9.6128

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
15	Chemicals—Continued.			
	Apomorphia	Pound	$24.00	$18.024
	Arsenic	do	.20	.1502
	Atropia, and its preparations	do	48.00	36.048
	Borax or tincal	do	.25	.18775
	Barium:			
	Muriate, nitrate, or acetate	do	.50	.3755
	Carbonate or chlorate	do	1.20	.9012
	Salts, not denominated	do	.20	.1502
	Berries, juniper	do	.10	.0751
	Berberina	do	32.00	24.032
	Bismuth, valerianate, citrate, subnitrate, and tannate.	do	4.00	3.004
	Bole, Armenian	do	.20	.1502
	Bromine	do	11.20	8.4112
	Bromide of potassium	do	3.00	2.253
	Bromide, not denominated	do	1.00	.751
	Bark:			
	Peruvian, calisaya, or cascarilla	do	1.00	.751
	Peru, other sorts	do	.25	.18775
	Camphor	do	.40	.3004
	Camphor, monobromated	do	4.80	3.6048
	Cadmium, metallic	do	4.00	3.004
	Caffeine and its salts	do	32.00	24.032
	Cantharides	do	3.00	2.253
	Cantharides, powdered	do	4.00	3.004
	Cantharidin	do	80.00	60.008
	Copperas	do	.04	.03004
	Carbonate of soda and potash	do	.15	.11265
	Chloroform	do	1.00	.0751
	Castoreum	do	9.60	7.2096
	Chloride of lime (dry)	do	.10	.751
	Codeia	do	192.00	144.192
	Chloral	do	4.50	3.3795
	Conia	do	160.00	120.16
	Collodin	do	1.60	1.2016
	Cinchonia	do	16.00	12.016
	Cubebia	do	96.00	72.096
	Chalk	do	.02	.01502
	Cacao, butter of	do	.70	.5257
	Delphinia and digitaline	do	192.00	144.192
	Dyes, not denominated	do	.65	.48815
	Elaterium	do	32.00	24.032
	Emetia	do	20.00	15.02
	Ergotine	do	32.00	24.032
	Eserine	do	480.00	360.48
	Ether, valerianic	do	16.00	12.016
	Ethyl, iodide, and bromide	do	16.00	12.016
	Eucalyptus	do	16.00	12.016
	Extracts:			
	Solid, carmab, indic, coca, eucalyptus, calabar beans, monesia, nux vomica, and opium.	do	10.00	7.51
	Not denominated	do	2.00	1.502
	Flor de alucema (disinfectant)	do	.10	.0751
	Gum:			
	Arabic	do	.25	.18775
	Powdered	do	.50	.3755
	Gum-lac and asafœtida	do	.30	.2253
	Gold, preparations simple or compound	do	128.00	96.128
	Iron:			
	Reduced by hydrogen	do	2.00	1.502
	Powdered or purified	do	.50	.3755
	Arsenate	do	9.60	7.2096
	Lactate	do	4.00	3.004
	Tartrate	do	.80	.6008
	Valerianate	do	5.00	3.755
	Iodide of iron, arsenic, sulphur, magnesium, potassium, sodium, lead, and zinc.	do	4.00	3.004
	Iodides and iodines, &c., not denominated	do	4.80	3.6048
	Iodide of mercury, proto. and bi	do	8.00	6.008
	Iodoform	do	8.00	6.008
	Jalap	do	25.60	19.2256
	Kermes' mineral (antimony)	do	2.00	1.502
	Kousso, flowers or in powder	do	2.00	1.502
	Lupulin	do	3.00	2.253
	Lactucarium	do	2.00	1.502
	Litharge	do	.15	.11265
	Lye (concentrated)	do	.04	.03004
	Linseed (raw or ground)	do	.06	.04506

Tariff on products and manufactures of the United States—Continued.

Tariff classification.	Unit.	Duty.	Equivalent in United States money.
Chemicals—Continued.			
Lactopeptine	Pound	$9.60	$7.2096
Lithium	do	8.00	6.008
Musk:			
Tonquin	do	240.00	180.24
Canton	do	64.00	48.064
Minium	do	.10	.0751
Manganese:			
Metallic	do	32.00	24.032
Borate	do	.30	.2253
Chloride	do	1.80	1.3518
Sulphate	do	6.00	4.506
Iodide	do	12.80	9.6128
Magnesium:			
Calcined and carbonate	do	.20	.1502
Lacto-phosphate and valerianate	do	16.00	12.016
Narcotina	do	32.00	24.032
Oil:			
Sesame seed and similar	do	.10	.0751
Cod-liver, in tins	do	.10	.0751
Animal (Dippal's)	do	.80	.6008
Croton "tiglio"	do	4.00	3.004
Cubeb and copaiba	do	.50	.3755
Resinous and ergot "de capredna"	do	10.00	7.51
Ginger	do	10.00	7.51
Almonds, bitter	do	12.00	9.012
Cassia	do	2.00	1.502
Cinnamon	do	30.00	22.53
Oils:			
Essential:			
Roses	do	80.00	60.08
Geranium	do	25.00	18.775
Verbena and valerian	do	20.00	15.02
Neroli	do	32.00	24.032
Patchouly	do	16.00	12.016
Camomila	do	32.00	24.032
Opium:			
In paste	do	6.00	4.506
Powdered	do	8.00	6.008
Liquid or laudanum	do	1.00	.751
Ochers	do	.04	.03004
Plasters of all kinds	do	1.00	.751
Phosphorus	do	3.00	2.253
Pastilles:			
Medicinal or santonino	do	2.00	1.502
Of ipecacuanha	do	1.00	.751
Pitch:			
Burgundy	do	.10	.0751
Castile	do	.06	.04506
Platina, salts of	do	96.00	72.096
Pilocarpine	Per grain	.15	.11265
Propylamine	Per pound	16.00	12.016
Plumbago	do	.06	.04506
Quinia, and its preparations not denominated	do	16.00	12.016
Spirits:			
Turpentine	do	.15	.11265
Aromatic and medicinal	do	.25	.18775
Sulphur	do	.06	.04506
Strychnine, morphine, and hellebore	do	64.00	48.064
Scammony (Aleppo)	do	4.00	3.004
Sirups, medicinal, gross weight	do	.12	.09012
Silver, preparations of	do	14.40	10.8144
Salts:			
Glauber	do	.10	.0751
Epsom	do	.04	.03004
Santonin	do	16.00	12.016
Seeds, medicinal	do	.16	.12016
Soda, caustic	do	.04	.03004
Sodium	do	2.00	1.502
Salicin	do	12.80	9.6128
Salts and oxide of mercury not expressed	do	1.00	.0751
Sulphate of copper and alumina	do	.10	.0751
Soda, arsenate, benzoate, salicylate, and valerianate	do	8.00	6.008
Tannin	do	4.00	3.004
Tartar emetic	do	1.00	.751
Turpentine	do	.20	.1502
Turpentine, Venice	do	.50	.3755
Turpentine, Tridacio	do	5.00	3.755
Urea	do	16.00	12.016
Verdigris, acetate of copper	do	.30	.2253

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
15	Chemicals—Continued.			
	Vermilion:			
	China	Per pound	$1.40	$1.0514
	Common	do	.60	.4506
	Waters:			
	Mineral	do	.04	.03004
	Distilled medicinal not expressed	do	.25	.18775
	Wines, medicinal	do	.12	.09012
	Zinc, bromide, cyanide, ferrocyanide, phosphide, valerianate, lactate, and sulphocarbolate.	do	4.80	3.6048
16	Clocks:			
	Tower	Each	100.00	75.10
	Metal	Inch	.50	.3755
	Wooden	do	.25	.18775
	Watches, 10 per cent. ad valorem			
17	Coal, 5 per cent. ad valorem			
18	Copper:			
	Ore, not rated			
	Sheets and bars, gross weight	Pound	.15	.11265
	Nails, gross weight	do	.38	.28538
	Wares	do	.38	.28538
19	Cotton:			
	Raw, not rated			
	Antimacassars, 30 inches long	Dozen	4.00	3.004
	Arabias, 36 inches	Yard	.12	.09012
	Artificial flowers	Pound	5.00	3.755
	Bandanas, 36 inches wide	Yard	.08	.06008
	Bands	Dozen pairs	.25	.18775
	Cloths:			
	45 inches long	Dozen	2.00	1.502
	White and cambric, 28 inches	Yard	.05	.03775
	White and cambric, 32 inches	do	.07	.05257
	White and cambric, 40 inches	do	.08	.06008
	Canvas, 30 inches wide	do	.05	.03775
	Carpeting	Square piece	.05	.03775
	Costumes	Each	2.00	1.502
	Not made up	do	1.50	1.1265
	For children	do	1.50	1.1265
	Cuffs, for shirts	Dozen pairs	1.40	1.0514
	Drill:			
	32 inches	Yard	.09	.06759
	Linen mixed with cotton, 32 inches	do	.15	.11265
	Linen mixed with cotton, fine, 32 inches	do	.30	.2253
	Drawers	Dozen	4.00	3.004
	Dimity:			
	32 inches	Yard	.18	.13518
	Quilted	do	.40	.3004
	Damask:			
	28 inches width	do	.15	.11625
	Mixed with wool	do	.35	.26285
	Embroidery	Pound	1.50	1.1265
	Frock coats	Each	2.50	1.8775
	Jackets	do	1.50	1.1265
	Garters	Dozen	.70	.5257
	Garters for children	do	.40	.3004
	Gloves	Dozen pairs	1.00	.0751
	Gloves for children	do	.50	.3755
	Gauze	Yard	.10	.0751
	Holland, mixed with linen, 36 inches width	do	.25	.18775
	Handkerchiefs:			
	18 inches	Dozen	.30	.2253
	28 inches	do	.50	.3755
	36 inches	do	.75	.56325
	Lawn:			
	40 inches width	Yard	.12	.09012
	Bordered with wool or silk	do	.15	.11265
	Lace:			
	36 inches width	do	.12	.09012
	Bordered, &c	do	.16	.12016
	Muslins:			
	28 inches width	do	.06	.04506
	36 inches width	do	.08	.06008
	Mixed with wool	do	.16	.12016
	Padding	Pound	.25	.18775
	Packing-cloth, linen mixed with cotton, 36 inches	Yard	.06	.04506
	Prints:			
	24 inches	do	.05	.03775
	36 inches	do	.08	.06008
	Shirtings:			
	26 inches	do	.05	.03775

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
19	Cotton—Continued.			
	Shirtings:			
	30 inches	Yard	$0.06	$0.04506
	36 inches	do	.07	.05257
	Drill, 36 inches	do	.08	.06008
	Shawls:			
	Lace	Dozen	12.00	9.012
	Small size	do	8.00	6.008
	Ordinary	Each	2.00	1.502
	China silk	Dozen	.50	.3755
	China silk, large	do	5.00	3.755
	China crepe	Each	1.50	1.1265
	Sashes, &c	Dozen	1.50	1.1265
	Sashes mixed with wool	do	2.00	1.502
	Skirts	do	13.00	9.012
	Sail-cloth	Yard	.25	.18775
	Surplices	Each	4.00	3.004
	Socks:			
	For men	Dozen	1.00	.751
	For children	do	.50	.3755
	Mixed with wool	do	.80	.6008
	Stockings:			
	Sewn	do	1.75	1.31425
	Unsewn	do	3.00	2.253
	For women	do	3.00	2.253
	Sewn	do	1.00	.751
	For children	do	.50	.3755
	Shirts	do	5.00	3.755
	Shirts with linen collars and cuffs	do	8.00	6.008
	Scarfs	do	18.00	13.518
	Thread	Pound	.50	.3755
	Thread on reels, 100 yards	Gross	1.00	.751
	Tassels	Pound	.60	.4506
	Twine. (See under Flax, &c.)			
	Undershirts	Dozen	3.00	2.253
	Undershirts mixed with wool	do	4.50	3.3795
	Umbrellas:			
	36 inches	do	3.50	2.6285
	20 inches	do	2.50	1.8775
	Vests	do	12.00	9.012
	White spreads:			
	2 yards	Each	.50	.3775
	3 yards	do	1.00	.751
	Wraps	Pound	2.00	1.502
	Wrappers	Each	6.00	4.0506
	Yarn	Pound	.04	.03004
	Yarn, red or purple	do	.12	.09012
	Yarn, other colors	do	.08	.06008
20	Earthen, stone, and china ware:			
	Ordinary, gross weight	do	.06	.04506
	Imitation porcelain, gross weight	do	.08	.06008
	Fancy ware, gross weight	do	.20	.1502
21	Fertilizers, not rated.			
22	Fish:			
	In tins, gross weight	do	.15	.11265
	Dried or salt, gross weight	do	.10	.0751
23	Flax, hemp, and jute:			
	Common drill, mixed with cotton	Yard	.15	.11265
	Fine drill, mixed with cotton	do	.30	.2253
	Canvas	do	.05	.03755
	Twine, gross weight	Pound	.20	.1502
24	Fruits:			
	Preserved in brandy or water, gross weight	do	.10	.0751
	Dried, gross weight	do	.10	.0751
	Fresh, gross weight	do	.05	.03755
	Shelled almonds	do	.25	.18775
25	Furs	Pound	1.00	.75
26	Glass:			
	Beads, gross weight	do	.50	.3755
	Colored or ornamental, gross weight	do	.06	.04506
	Glasses, cups, vases, &c., gross weight	do	.12	.09012
	Sheet, gross weight	do	.08	.02253
	For watches	Dozen	.50	.3755
27	Glucose, gross weight	Pound	.10	.0751
28	Glue, gross weight	do	.05	.03755
29	Gunpowder. (Prohibited.)			
30	Hair:			
	Human, gross weight	Pound	7.00	5.257
	Imitation, gross weight	do	3.00	2.253
31	Hay. (Not rated.)			

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
32	Hides, gross weight	Pound	$0.80	$0.2253
	Skins, gross weight	....do	.50	.3755
33	Honey, gross weight	....do	.10	.0751
34	Hops, gross weight	....do	.16	.12016
35	Ice	Free		
36	India-rubber manufactures	Pound	.50	.3755
37	Iron and steel:			
	Bar and sheet iron, gross weight	....do	.03	.02253
	Buckets	Dozen	8.00	6.008
	Buckles	Gross	.80	.6008
	Bells for houses	Pound	.20	.1502
	Beds, gross weight	....do	.06	.04506
	Beds with bronze, gross weight	....do	.25	.18775
	Chains, gross weight	....do	.06	.04506
	Cast iron for agricultural and domestic use, gross weight.	....do	.06	.04506
	Forged iron and in parts for domestic or other use, not denominated, gross weight.	....do	.16	.12016
	Guns:			
	Single-barrel	Each	2.50	1.8775
	Double-barrel	....do	5.00	3.755
	Fine	....do	6.00	4.506
	Fine double	....do	12.00	9.012
	Breech-loaders	....do	20.00	15.02
	Hooks and rings, gross weight	Pound	.20	.1502
	Nails (3-inch) and tacks, gross weight	....do	.08	.06008
	Pumps for casks	Dozen	12.00	9.012
	Steel, gross weight	Pound	.06	.04506
	Tools and implements, gross weight	....do	.07	.05257
	Tools and implements (fine), gross weight	....do	.20	.1502
	Scales:			
	4-inch	Dozen	6.00	4.506
	8-inch	... do	9.00	6.759
	12-inch	....do	24.00	18.024
	18-inch	....do	36.00	27.036
	With marble slabs	Each	6.00	4.506
	Safes and strong boxes, 25 inches in height	....do	25.00	18.775
	Safes, large. (According to size.)			
	Wire, gross weight	Pound	.16	.12016
	Weighing machines:			
	To weigh 150 pounds	Each	6.00	4.506
	To weigh 250 pounds	....do	10.00	7.51
	To weigh 500 pounds	....do	20.00	15.02
	Screws, gross weight	Pound	.16	.12016
38	Jewelry:			
	Rings	Gross	.50	.3755
	Rings, fancy	....do	3.00	2.253
	Ear-rings	Gross pairs	2.00	1.502
	Ear-rings, fancy	....do	6.00	4.506
	Not denominated, 10 per cent. ad valorem			
39	Lamps:			
	Table, of crystal, &c., gross weight	Pound	.30	.2253
	Of any metal, with or without glass, gross weight	....do	.40	.3004
40	Lead:			
	In bars	Pound	.06	.04506
	In shot	....do	.10	.0751
41	Leather:			
	Plain	Pound	.25	.18775
	Bridles with single reins	Dozen	7.00	5.257
	Bridles with double reins	....do	10.00	7.51
	Reins	....do	4.50	3.3795
	Harness for plow	Each	5.00	3.755
	Harness for carriage	....do	10.00	7.51
	Saddles:			
	Common	....do	15.00	11.265
	Fine	....do	20.00	15.02
	For women	....do	10.00	7.51
	Varnished, for shoes, &c	Pound	.30	.2253
	Shoes	Pair	2.50	1.8775
	For children	....do	1.00	.751
42	Lime and cement	Quintal	.50	.3755
43	Malt liquors:			
	Beer	Doz. bottles	2.00	1.502
	Beer in barrels	Gallon	.50	.37559
44	Medical instruments:			
	Not denominated, 5 per cent. ad valorem			
	Catheters, metal	Dozen	8.92	6.69892
	Catheters, gutta-percha	....do	2.94	2.20794

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
45	Naval stores:			
	Rosin, gross weight	Pound	$0.02	$0.01502
	Tar, gross weight	do	.02	.01502
	Pitch, gross weight	do	.02	.01502
	Turpentine, gross weight	do	.20	.01502
46	Oil cake and meal. (Not rated.)			
47	Oils:			
	Animal	Gallon	.37	.27787
	Olive, in bottles 15 to 18 ounces, cases of 12 bottles	Case	2.50	1.8775
	Olive, in casks, &c	Gallon	.80	.6008
	Turnip	do	.80	.6008
	Linseed	do	.75	.56325
	Cocoanut	do	.37	.27787
	Whale	do	.80	.6008
	Mineral, gross weight	Quintal	3.00	2.253
48	Paraffine and wax:			
	Paraffine, gross weight	Pound	.05	.03755
	Wax, gross weight	do	.40	.3004
49	Paints:			
	Oil, gross weight	do	.06	.04506
	Dry, gross weight	do	.04	.03004
50	Paper:			
	Letter paper, ruled or not, 10 inches long	Ream	1.00	.751
	Letter paper, ruled or not, 15 inches long	do	1.60	1.2016
	Plain white (crown brand)	do	.80	.6008
	Plain white (foolscap)	do	1.20	.9012
	Linen paper	do	2.00	1.502
	Thin paper for cigarettes	do	2.00	1.502
	Thin paper for copying-presses	do	2.00	1.502
	Colored, for advertising	do	3.00	2.253
	Colored China, for flowers, &c	do	6.00	.04506
	Gold or silver gilt	do	16.00	12.016
	Letter paper, with printed headings	do	8.00	6.008
	Letter paper, large size	do	20.00	16.02
	Brown wrapping paper	do	.72	.54072
	Printer's paper	do	4.00	3.004
	Drying paper	do	3.00	2.253
	Invoice, ruled	do	2.00	1.502
	Ticket or note	do	4.00	3.004
	Glazed	do	3.00	2.253
	Card:			
	Ordinary	Pound	3.00	.02253
	Fancy	do	.24	.08024
	Colored wall-paper	Roll	.20	.1502
	Colored wall-paper, with gilt	do	.60	.4506
	Wall-paper, with landscapes, and illuminations, &c	Tira	.20	.1502
51	Plated ware, gross weight	Pound	1.50	1.1265
52	Provisions:			
	Fresh meat. (Not rated.)			
	Salt meat, gross weight	Pound	.10	.0751
	Oleomargarine. (Not rated.)			
	Lard, gross weight	Pound	.05	.03755
	Butter, gross weight	do	.10	.0751
	Cheese, gross weight	do	.10	.0751
53	Quicksilver, 5 per cent. ad valorem			
54	Seeds, 5 per cent. ad valorem			
55	Soap:			
	Common, gross weight	Pound	.10	.0751
	Fancy, gross weight	do	.25	.18775
56	Spirits	Doz. bottles	10.00	7.51
57	Starch, not rated			
58	Sugar and molasses, gross weight	Pound	.10	.0751
59	Tin:			
	In bars or sheets, gross weight	do	.16	.12016
	Prepared, for domestic, or other uses, gross weight	do	.20	.1502
	Painted or ornamental	do	.25	.18775
	Baths	Each	10.00	7.51
	Baths, sitz	do	4.00	3.004
60	Tobacco:			
	Leaf, gross weight	Pound	.25	.18775
	Cigars and cigarettes, gross weight	do	7.00	5.257
61	Vegetables:			
	Preserved, gross weight	do	.10	.0751
	Potatoes, gross weight	do	.02	.01502
62	Wood:			
	Timber for building purposes	1,000 feet	20.00	15.02
	Sofas:			
	Fancy wood	Each	25.00	18.775
	Plain	do	10.00	7.51

Tariff on products and manufactures of the United States—Continued.

Number.	Tariff classification.	Unit.	Duty.	Equivalent in United States money.
62	Wood—Continued.			
	Dressing tables:			
	Fancy	Each	$30.00	$22.53
	Plain	do	15.00	11.265
	Beds:			
	Fancy wood	do	20.00	15.02
	Plain	do	8.00	6.008
	Trunks:			
	Plain	do	2.00	1.502
	Fancy	do	6.00	4.506
	Prepared for match-wood	Pound	.05	.03775
	Walking sticks	Dozen	8.00	6.008
	Walking sticks, fancy	do	15.00	11.265
	Buckets	do	4.00	3.004
	Tables:			
	Fancy wood	Each	20.00	15.02
	Plain	do	8.00	6.008
	Billiard tables, with fittings	do	300.00	225.30
	Desks	do	3.00	2.253
	Desks, large, with drawers	do	25.00	18.775
	Desks, fancy, with presses	do	10.00	7.51
	Desks, fancy, without presses	do	6.00	4.506
	Cupboards or wardrobes	do	25.00	18.775
	Cupboards or wardrobes with glass	do	40.00	30.04
	Rulers	Dozen	2.00	1.502
	Chairs:			
	Painted	do	10.00	7.51
	Cane bottomed	do	20.00	15.02
	Fancy wood	do	25.00	18.775
63	Wool:			
	Sheep, gross weight	Pound	.08	.06008
	Alpaca, gross weight	do	.16	.12016
64	Zinc, in bars or sheets, gross weight	do	.04	.03004

WEST INDIES.

BARBADOES.

[Prepared by Consul L. G. Reed.]

Duties of customs inwards.

Classification.	Unit.	Duty.
Arrowroot, and all other starches	100 pounds	$0 24
Asses	Each	1 20
Bran, pollard, oats	100 pounds	15
Bread, pilot and navy, and crackers	do	12
Bricks	Per 1,000	72
Butter	100 pounds	1 80
Candles	do	2 00
Cement	Barrel	30
Cheese	100 pounds	1 80
Coal, and mixed preparations thereof, and coke	Ton	60
Cocoa	100 pounds	50
Coffee	do	60
Cordage (except twines)	do	36
Corn and grain unground	do	12
Fire-arms	Each	2 40
Fish:		
Dried, salted, or smoked	112 pounds	05
Pickled	Barrel	10
Flour, wheat or rye	do	1 00
Indian meal, or other kinds	do	30
Gunpowder:		
Blasting	100 pounds	1 20
Other kinds	do	2 40
Horses:		
Under 13½ hands high	Each	2 40
All others	do	9 60
Lard	100 pounds	1 00
Liquors:		
Malt liquor, cider and perry, in wood	64 gallons	3 60
Malt liquors, cider and perry, in bottles (reputed quarts)	Dozen bottles	24
Spirits and cordial (except rum and gin, and perfumed spirits to be used as perfumery only)	Gallon	1 44
Gin:		
Below or equal to proof by Sykes's hydrometer	do	96
For every higher degree of proof in proportion.		
Rum:		
Below or equal to proof by Sykes's hydrometer	do	96
For every higher degree of prof in proportion.		
Wine:		
Sparkling	do	48
All other kinds	do	18
Matches:		
Lucifer and other kinds, each box to contain 100 sticks	Gross boxes	24
Boxes containing any greater or less quantity to be charged in proportion.		
Meat, salted or cured	100 pounds	1 20
Metals, new:		
Composition nails, bolts, bars, rods, spikes, and rivets	do	1 00
Copper in sheets, rods, bars, bolts, spikes, nails, and rivets	do	1 00
Iron hoops, bars, and rods	do	06
Iron nails, spikes, rivets, and clinches	do	24
Lead, sheet, and pipe	do	24
Yellow metal, in sheets	do	1 00
Metal, old:		
Copper, brass, and pewter	100 pounds	48
Mules:		
Value of $60, and upwards	100 weight	7 20
Under the value of $60	Cost	4 80
Oil, kerosene	Gallon	05
Oil meal and oil cake	100 pounds	10

Duties of customs inwards—Continued.

Classification.	Unit.	Duty.
Rice	100 pounds	12
Soap	do	30
Sugar, refined	do	2 40
Tallow	do	48
Tea	Per pound	06
Tobacco:		
Cigars, cheroots and cigarettes of all kinds	do	1 20
Snuff	do	36
Other manufactured	do	36
Other manufactured, if in outer packages of not less than 80 pounds net weight each	do	48
Leaf	do	24
If in outer packages of less than 50 pounds net weight each	do	36
Wood:		
Hemlock, birch, beech, white pine, pitch pine, and spruce, superficial measurement of 1 inch thickness	1,000 feet	1 20
Hoops:		
Whether coiled or straight	1,200 pieces	1 44
All other kinds, except in naves, felloes, spokes, and unsquared posts	100 cubic feet	2 00
Shingles of all descriptions	Per 1,000	36
Staves, white and red oak, whether loose or made up in bundles or shooks	1,200 pieces	1 44
Oxbows	Dozen	12
Truss hoops	Set of nine	30
All other articles not in this table particularly enumerated or in following table particularly exempted, 8 per cent. ad valorem.		

Exemptions from duty.

All articles for the use of the governor of the island.

All articles and things whatsoever imported by the local government for the police or for public institutions.

All articles specially imported for the use or decoration of any place of worship and not imported, for sale.

All articles and things of every description imported by any naval officer on full pay in Her Majesty's service, for his use and accommodation, on the certificate to that effect of the officer so importing.

The governor, purchasing any articles whatsoever, shall be entitled to the duty refunded to him out of the public treasury, on the warrant of the governor in council, on the certificate that he is entitled to the refund.

Where horses are purchased by the governor, direct from the importer, within six months from the date of import, the duty shall be allowed him, on the warrant of the governor in council, on the certificate that he is entitled to the refund.

Asphalt.

Blubber and heads and offals of fish.

Bones and horns.

Books, forms, and papers (whether printed or manuscript), maps, charts, school globes, engravings, music, pictures, statues, and other works of art.

Bottles of glass or stone-ware, empty.

Bullion, coin, or diamonds.

Calves (sucking) and foals.

Cassaripe.

Cattle.

Cocoanuts.

Cotton wool.

Eggs.

Fresh fish and turtle.

Fresh fruit and vegetables.

Fresh meats.

Fuel, wood and charcoal.

Gravel, sand, soil, earth, and peat.

Green ginger.

Hay and straw.

Hoe sticks.

Horses brought into the island by equestrian companies, provided the same are taken away by them on leaving, and race horses on every occasion after the first importation thereof, provided no drawback had been claimed thereon on exportation.

Hulls, boats, masts, spars, apparel, tackle, and furniture of vessels condemned by survey, and on which tonnage duty shall have been paid.

Ice.

Leeches.

Lemon and lime juice.

Lime, building and temper, and limestone.

Live and dead stock not enumerated in Table A.

Logwood.

Manure.

Metals, old iron and old lead.

Molasses.

Oars and sweeps.

Packages in which goods are imported, except new trunks, vats, hogsheads, and puncheons.

Passengers' baggage, containing apparel and articles of personal use and professional apparatus.

Patterns and samples, of no intrinsic value.
Personal effects of individuals belonging to this island dying abroad.
Pozzolana.
Rags.
Raw hides and skins.
Salt.
Sawdust.
Soda water and mineral water.
Specimens illustrative of natural history, seeds, bulbs and roots, and cuttings of plants or shrubs of all kinds.
Spars.
Sugar, raw or Muscovado.
Sugar, crystallized vacuum pan.
Tablets, tombstones and all the appurtenances thereto, imported specially for immediate erection and not for sale, on the certificate of the person for whom imported.
Tar, pitch, and resin.
Turtle and tortoise shell, unmanufactured.

GUADELOUPE.

The full tariff of Guadeloupe was printed in Consular Reports No. 3, p. 37.

HAYTI.

Haytian tariff of duties on leading products and manufactures of the United States.

[Prepared by Consul-General Thompson.]

No.	Classification	Unit.	Duty.
1	Agricultural implements		Free.
2	Animals;		
	Cattle, hogs, horses, mules, sheep, and all others		Do.
3	Art works, 20 per cent. ad valorem.		
4	Bark and extracts for tanning	Barrel	$0 25
5	Blacking, shoe:		
	In sticks or pots	Dozen	50
	Liquid in bottles	....do	10
	Balls	....do	10
	Small earthen jars	....do	20
6	Bones, hoops, horns, &c.		
7	Books:		
	Bound per volume:		
	Folio		20
	Quarto		15
	Octavo		08
	Twelvemo		05
	Sixteenmo		03
	Eighteenmo		03
	Unbound half price, according to folio.		
	Classical, grammars, dictionaries of dead or living languages, Greek and Latin authors, arithmetics, geometries, algebras, and elementary geographies, bound or unbound.		Free.
	Memorandum for pocket	Dozen	30
	Memorandum for pocket, fine	....do	40
	Maps, mounted:		
	Over 48 inches	Each	25
	Under 48 inches	....do	12
	Engravings, small and ordinary without frames, other than such as are prohibited by law.	Dozen	12
	Engravings of saints and others, colored or uncolored:		
	3 to 4 by 3 to 6 inches	Each	14
	6 to 8 by 6 to 12 inches	....do	25
	9 to 11 by 13 to 15 inches	....do	50
	12 to 20 by 16 to 24 inches	....do	75
	21 to 30 by 25 to 40 inches	....do	1 20
	31 to 36 by 35 to 40 inches	....do	2 50
	Larger sizes, 20 per cent. ad valorem.		
8	Brass:		
	And manufactures thereof, excepting such articles otherwise provided for.	Cwt	1.00
	Bells	....do	5 00
	Bells, bronze	....do	4 00
	Bells, small, hand	Dozen	50
	Watch keys	....do	12
	Watch keys, fine	....do	1 00
9	Breadstuffs:		
	Bread and biscuits:		
	White	Cwt	75
	Common	... do	87
	Small	....do	75
	Barley		
	Flour, corn, wheat, barley	Barrel	1 00
	Indian corn	....do	1 00
	Oats	....do	80
	Oats	Demijohn	12
	Rye	Barrel	50
	Wheat	....do	50
10	Bricks		
11	Brooms and brushes:		
	Hair or straw	Dozen	1 00
	Hair or straw, hand	....do	50
	Feather	....do	1 00
	Clothes brushes:		
	Fine	....do	60
	Common, and shoe	....do	25
	Tooth brushes	....do	50
	Hair brushes	....do	50

Haytian tariff of duties on leading products and manufactures, &c.—Continued.

No.	Classification.	Unit.	Duty.
12	Candles:		
	Wax or spermaceti	Pound	$0 05
	Tallow	do	02
13	Carriages		10 00
	Cabs, gigs, &c		5 00
14	Cars, railroad, steam		
15	Chemicals, 20 per cent. ad valorem.		
16	Clocks:		
	Musical, large	Each	8 00
	Brass or bronze	do	6 00
	Ordinary and common	do	2 00
	Sand (hour glasses)	Dozen	75
	Wooden, with chain and weights	Each	60
	House, church, &c., 20 per cent. ad valorem.		
	Watches:		
	Gold	Each	1 50
	Silver	do	75
	Brass	do	50
17	Coal	Hogshead	1 00
	Coal	Barrel	20
18	Copper:		
	Ingots, bars, sheet	Cwt	1 00
	Nails, rivets	do	4 00
19	Cotton, prohibited:		
	Manufactures, bleached or unbleached cloth, under 24 inches	Ell	01
	24 to 30 inches	do	01½
	30 to 36 inches	do	02
	36 to 42 inches	do	02½
	42 to 50 inches	do	03
	50 to 60 inches	do	03½
	Fine, under 30 inches	do	04
	Prints:		
	Up to 30 inches	do	04
	Under 26 inches	do	03
	Above 30 inches (approximative).		
	Drills and duck:		
	Mixed linen and cotton:		
	Up to 30 inches	do	07
	Ordinary	do	06
	Pure cotton	do	04
	Ordinary	do	03
	Denims blue:		
	22 inches and under	do	02
	22 to 30 inches	do	02½
	30 to 36 inches	do	03
	Pantaloon stuffs, 4–4		04
	Sheeting	do	10
	Ribbons or tape	12 ells	02
	Stockings	12 pairs	40
	Shawls	Dozen	1 00
	Thread	Dozen spools	02
	Thread, colored	do	06
	Towels:		
	Colored border	Dozen	40
	Common	do	20
	Tablecloth	Ell	08
20	Earthenware	Dozen pieces	12
	Stoneware, per crate:		
	1 to 3 feet large	Each	2 00
	3 to 5 feet large	do	4 00
	Over 5 feet large (approximative).		
	Stoneware, per hogshead	do	5 00
	Chinaware:		
	White and ordinary same as above:		
	Fine	Piece	03
21	Fertilizers.		
22	Fish:		
	Codfish	Cwt	40
	Mackerel	Barrel	50
	Herrings:		
	Alewives	do	50
	Scalded	Box	06
23	Flax, hemp, jute:		
	Ropes	Cwt	1 50
	Twine	Pound	03
24	Fruits:		
	Dried	do	02
	In brandy	Dozen bottles	50
	In vinegar, in jars	Each	50
25	Fur, hoods:		
	For ladies	Dozen	8 00
	For children	do	3 00

Haytian tariff of duties on leading products and manufactures, &c.—Continued.

No.	Classification.	Unit.	Duty.
26	Glass, manufactures:		
	Tumblers, fine:		
	With covers	Each	$0 25
	Large	Dozen	50
	Medium	....do	25
	Small	....do	12
	Common	....do	25
	Goblets, fine	....do	75
	Chimneys	....do	25
	Watch-glasses	Gross	2 50
	Spectacle glasses	....do	1 50
	Shades for chandeliers:		
	Fine	Pair	1 50
	Common	....do	50
	Shades for candlesticks	....do	50
	Vases for flowers:		
	Ornamented	....do	1 50
	Plain	....do	50
	Window pictures, &c., 20 per cent. ad valorem.		
27	Glucose		
28	Glue:		
	Animal	Pound	04
	Fish	....do	05
29	Gunpowder	Pound	05
30	Hair	....do	01
31	Hay	Bale	30
32	Hides and skins:		
	Cow	Each	64
	Buffalo	Dozen	12 00
	Horse	Each	30
	Ox, tanned	Dozen	2 00
	Sheep-skins	....do	50
	Morocco	....do	1 00
	Morocco, imitation	....do	50
	Hog	....do	3 00
	Calf	....do	2 00
	Calf, varnished	....do	3 00
	Chamois	Each	30
	Chamois, imitation	Dozen	50
33	Honey	Bottle	04
34	Hops		
35	Ice		
36	India-rubber manufactures		
37	Iron and steel manufactures:		
	Bar	Cwt	60
	Sheet	....do	50
	Galvanized	....do	75
	Sad-irons	Dozen pairs	1 00
	Tailors' irons	....do	1 25
	Horseshoes	Set of four	08
	Hoes	Dozen	1 00
	Plane-irons	....do	20
	Shovels	....do	75
	Pocket-knives:		
	Several blades	....do	50
	One blade	....do	16
	Common	....do	08
	Shoemakers' knives	....do	15
	Hunting knives	....do	2 00
	Bowie (prohibited).		
	Table knives:		
	Ordinary, without forks	....do	50
	Ordinary, with forks	....do	1 00
	Fine, without forks	....do	75
	Fine, with forks	....do	1 25
	Common, with forks	....do	40
	Common, without forks	....do	20
	Indigo knives	....do	50
	Coopers' knives	....do	75
	Tanners' knives	....do	1 00
	Cutlass	....do	1 00
	Cutlass, agriculture	....do	30
	Pots	Cwt	75
	Hammers, assorted	Dozen	40
	Brace and bits	....do	1 00
	Bits without brace	....do	50
	Gimlets	....do	25
	Bits for horses	....do	25
	Bits for horses:		
	Plated	....do	3 00
	Ordinary	....do	2 50
	Common	....do	2 00

Haytian tariff of duties on leading products and manufactures, &c.—Continued.

No.	Classification.	Unit.	Duty.
37	Iron and steel manufactures—Continued.		
	Mortars and pestles	Pound	$0 04
	Molds for bullets	Dozen	75
	Mills:		
	Coffee	Each	06
	Tobacco	do	1 00
	Pincers, jewelers' and shoemakers'	Dozen	40
	Crowbars	do	40
	Platines, for baking cassaves	Each	20
	Stoves	Cwt.	75
	Furnaces	do	25
	Hinges	Dozen pairs	1 00
	Frying-pans	do	1 50
	Rivets	Cwt.	1 50
	Casters for table	Dozen	25
	Rat-traps	do	50
	Garden rakes	do	50
	Adzes	do	50
	Axes	do	1 00
	Hatchets	do	75
	Curry-combs	do	1 00
	Springs:		
	For carriages, 20 per cent. ad valorem.		
	For watches, 20 per cent. ad valorem.		
	Hinges for trunks and chests:		
	2 to 4 inches	Dozen pairs	40
	7 to 12 inches	do	75
	13 upwards	do	1 00
	Swords:		
	Cavalry	Free	
	Officers':		
	Fine	Each	1 50
	Plain	do	1 00
	Ordinary brass sheath	do	50
	Ordinary leather sheath	do	40
	Grass-scythes	Dozen	40
	Locks:		
	Door, assorted sizes	do	1 00
	Trunk, assorted sizes	do	25
	Bolts:		
	For doors, assorted sizes	do	25
	Large	do	50
	Saws:		
	Large and medium, unmounted	do	2 00
	Small, unmounted	do	1 50
	Augers, assorted	do	25
	Corkscrews	do	40
	Trowels	do	50
	Pipe for water	Cwt.	1 00
	Needles:		
	Sewing	1,000	10
	Sail	do	25
	Awls:		
	Without handles	Dozen	25
	With handles	do	12
	Rings for awnings, tents	Gross	25
	Railings	Cwt.	1 00
	Railings, gates, and balcony	do	2 00
	Chain:		
	For cables	do	1 00
	Other	Pound	02
	Chisels, masons', joiners'	Dozen	20
	Scissors:		
	Tailors', over 6 inches	do	20
	Ladies', fine	do	50
	Ladies', common	do	20
	Bed-keys	Dozen	50
	Bed-screws	Gross	75
	Nails	Cwt	75
	Screws:		
	Under 2 inches	Gross	06
	Over 2 inches	Dozen	40
	Squares	Each	06
	Axles		Free.
	Wire	Pound	08
	Bedsteads	Each	3 00
38	Jewelry:		
	False, 20 per cent. ad valorem.		
	Genuine, 10 per cent. ad valorem.		
39	Lamps:		
	Large		2 00
	Small hand	Dozen	3 00

Haytian tariff of duties on leading products and manufactures, &c.—Continued.

No.	Classification.	Unit.	Duty.
40	Lead:		
	Sheet	Pound	$0 02
	Pig	do	01
	Shot	do	04
41	Leather:		
	Tanned	Dozen sides	3 00
	Shoes:		
	Varnished, for men	Dozen	2 50
	Ordinary, for men	do	2 00
	Common, for troops	do	1 00
	Boys'	do	2 00
	Ladies', fine	do	2 00
	Ladies', morocco	do	1 50
	Children's	Per dozen	1 00
	Misses'	do	1 50
	Boot, upper	Per pair	40
	Aprons	Each	75
	Belts:		
	Sword	Per dozen	2 50
	Sword, varnished	do	1 50
	Visors, for caps	do	20
42	Lime and cement:		
	Cement	Hogsheads	1 00
	Cement	Barrels	25
43	Malt liquors:		
	Beer and porter	Barrel of 60 gallons.	2 00
	Beer and porter, bottled	Per dozen	25
44	Medical instruments, 20 per cent. ad valorem.		
45	Naval stores:		
	Rosin	Barrel	50
	Tar	do	75
	Pitch	do	50
	Turpentine	Gallon	12
46	Oil cake and meal		
47	Oils:		
	Animal		
	Mineral		25
	Vegetable:		
	Olive:		
	Cask	Gallon	20
	Cans, 3 or 4 gallons	Can	75
	Cans, one-half gallon	do	37
	Baskets	12 bottles	50
	Baskets	12 bottles, quart	75
	Boxes	30 vials	60
	Boxes	12 vials	20
	Burning		5
	Linseed and turpentine	Gallon	12
	Almond	Bottle	12
	Almond	Pound	10
	Castor, clarified	Bottle	16
	Castor, clarified	Gallon	64
48	Paraffine and wax	Pound	5
49	Paints of all kinds	do	1½
50	Paper:		
	Sand	Quire	8
	Drawing, map, &c	100 sheets	1 00
	Ministerial:		
	Gilt-edge	Ream	1 00
	Plain-edge	do	75
	Fine, over 15 inches	do	60
	Ordinary, under 15 inches	do	70
	Scholar, common	do	15
	Letter	do	48
	Letter, gilt-edge	do	60
	Wrapper, cartridge, &c	Quire	12
	Ruled for music	do	12
	Wall:		
	Satin, velvet, and gilt	Roll	25
	Satin-velvet	do	18
	Satin, ordinary	do	6
	Plain	do	3
	Water-proof	Ream	40
	Boxes	Dozen	50
	Boxes, office	do	1 00
	Boxes, hat	do	75
	Boxes, models	do	50
	Past-board	Sheet	16

Haytian tariff of duties on leading products and manufactures, &c.—Continued.

No.	Classification.	Unit.	Duty.
51	Plated ware:		
	Candlesticks:		
	Large	Pair	$1 00
	Above 10 inches	....do	50
	Under 10 inches	....do	25
	Spoons and forks	Dozen pairs	2 00
	Spoons and forks, galvanized	Dozen	50
	Sheaths for swords	Each	75
52	Provisions:		
	Salt pork	Cask	2 50
	Salt pork	Barrel	1 50
	Salt mutton	....do	2 00
	Salt hams	Pound	02
	Salt beef	Barrel	1 50
	Smoked beef	Cwt	1 50
	Canned beef	Can	50
	Oleomargarine		
	Lard	Cwt	1 00
	Butter	....do	1 00
	Cheese, all kinds	Pound	2
53	Quicksilver, 20 per cent. ad valorem.		
54	Seeds:		
	Garden		Free.
	Linseed	Cwt	1 00
	Juniper	Pound	02
	Bird	Cwt	1 00
55	Soap	....do	1 00
	Soap, toilet	Dozen	16
56	Spirits:		
	Brandy, per cask of 60 gallons	Per gallon	50
	Brandy	Box of 12 bottles.	1 00
	Brandy	Box, quarts, 12 bottles.	1 50
	Spirit of wine	Gallon	50
	Gin, cask of 60 gallons	... do	25
	Gin	Box of 12 flasks	75
	Gin	Box of 12 flasks, pints.	50
57	Starch		
58	Sugar:		
	Refined	Pound	03
	Molasses		
59	Tin:		
	Double	100 sheets	2 00
	Single	....do	1 00
60	Tobacco:		
	Roll	Pound	10
	Leaf	....do	04
	Chewing	....do	04
	Snuff	....do	20
	Cigars	100	25
61	Vegetables, preserved	Can	10
62	Wood.		
	Lumber:		
	Pitch pine	1,000 feet	2 50
	White pine	... do	1 75
	Oak	....do	3 50
	Pumps for ships, &c	Each	2 00
	Pulleys:		
	Double	Inch	02
	Single	....do	01
	Bedsteads:		
	Mahogany	Each	6 00
	Mahogany, carved	....do	8 00
	Oak		4 00
	White pine		3 00
	Carriage-wheels	Pair	2 00
63	Wool	Pound	04
64	Zinc	....do	02

The full tariff of Hayti was printed in Consular Report No. 18, p. 604. The changes were noted in No. 32, p. 298.

PORTO RICO.

Tariff duties of Porto Rico.

[Prepared by Edward Conroy.]

Number.	Articles.	Unit.	Duty on American productions.	
			Under Spanish and American flag.	Under other foreign flag.
1	Agricultural implements		Free.	Free.
2	Animals:			
	Cattle	Head	$4 00	$5 80
	Hogs	do	1 80	2 61
	Horses and mules	do	5 00	7 25
	Sheep and all others	do	60	87
	When introduced to improve breed and under special permission are free of duty.			
3	Art works:			
	Oil paintings	Each	32	46
	Sculptures, marble	100 kilograms	1 92	2 76
	Drawings and pictures	Kilogram	1 20	1 74
4	Bark and extracts:			
	Bark for tanning		Free	
	Other kind of barks	100 kilograms	4 50	6 75
	Extracts	do	10 80	17 40
5	Blacking:			
	Asphalt	do	53	76
	Shoe	do	1 20	2 03
6	Bones, hoofs, horns, &c	do	4 00	5 80
7	Books, maps, engravings, &c	do	5 40	6 90
8	Brass, and manufactures of:			
	Bars	do	6 40	9 90
	Sheet, nail, wire tubes	do	10 00	14 50
	All other manufactures	do	16 40	23 78
9	Breadstuffs:			
	Barley	do	80	1 16
	Bread and biscuits	do	2 60	3 77
	Indian corn:			
	Raw	do	80	1 16
	Manufactured	do	65	1 10
	Oats	do	80	1 16
	Rye	do	80	1 16
	Wheat	do	80	1 16
	Flour	do	2 45	3 25
10	Bricks			
11	Brooms and brushes	do	4 00	5 80
12	Candles:			
	Tallow	do	4 00	5 80
	All other kinds	do	5 40	8 70
13	Carriage and horse cars:			
	Carriages	One	60 00	87 00
	Horse cars	do	1 60	2 38
14	Cars (railroad, steam):			
	Cars	do	240 00	384 00
	Other vehicles belonging to railroads	do	120 00	174 00
15	Chemicals:			
	Acids, all kind	100 kilograms	1 26	2 03
	Alum	do	90	1 45
	Oxide of potash and soda	do	4 68	7 54
	Chloride of lime, &c	do	59	87
	Nitrate of potash and soda	do	3 24	5 22
	Oxide of (soda), lead	do	2 16	4 38
	Sulphate of iron	do	1 08	1 74
	All other chemical preparations	Kilogram	09	15
16	Clocks and watches:			
	Clocks	One	32	46
	Watches:			
	Gold	do	1 20	1 80
	Silver and of other metals	do	96	1 38

Tariff duties of Porto Rico—Continued.

Number.	Articles.	Unit.	Duty on American productions. Under Spanish and American flag.	Under other foreign flag.
17	Coal:			
	Animal	100 kilos	$2 88	$4 14
	Mineral and vegetable		Free.	Free.
18	Copper:			
	Ore, ingots, and bar	100 kilos	6 40	9 20
	Sheet	do	10 00	14 50
19	Cotton:			
	Raw	do	5 00	7 25
	Thick textures, plain, unbleached, bleached, or dyed:			
	Common:			
	Until 10 threads	Kilo	10	14
	11 to 16 threads	do	14	20
	17 to 21 threads	do	19	27
	22 upwards	do	30	43
	Middling:			
	Until 13 threads	do	16	23
	14 to 17 threads	do	20	29
	18 to 21 threads	do	34	49
	22 upwards	do	52	75
	Superior:			
	Until 12 threads	do	24	34
	13 to 17 threads	do	30	43
	18 to 23 threads	do	40	58
	24 upwards	do	66	95
	Twilled texture:			
	Common	do	14	20
	Superior	do	25	56
	Blankets	do	12	17
	Velvet	do	52	75
	Crochet cotton and lace tulle, &c	do	1 00	1 45
	Other articles woven of cotton	do	44	63
20	Earthenware, stone, and china:			
	Slates, slabs, bricks, tiles, tubes, &c.:			
	Common	100 kilos	80	1 12
	Fine	do	3 60	5 00
	Porcelain	do	6 48	9 00
21	Fertilizers		Free.	Free.
22	Fish:			
	Living		Free.	Free.
	Fresh, salted, pickled, smoked, and otherwise preserved	100 kilos	88	1 88
	Tinned	Kilo	10	15
23	Flax, hemp, and jute:			
	Raw	100 kilos	1 60	2 32
	Lint, hemp, and jute	do	3 00	4 35
	Lint, flax	do	16 00	23 20
	Thread	do	20 00	29 00
	Rope	do	4 00	5 80
	Common unbleached texture, as bags, &c	Kilo	04	06
	Creas and similar textures: *			
	Until 10 threads	do	14	20
	11 to 15 threads	do	22	32
	16 to 20 threads	do	45	65
	21 upwards	do	85	1 23
	Hammocking	do	21	30
	Drills, towels, &c	do	34	49
	Lace	do	3 20	4 60
	Other articles, woven, of flax, hemp, and jute	do	80	1 15
	Mats, floor and other	do	05	07
24	Fruits:			
	Fresh and dried	100 kilos	2 16	3 13
	Raisins and almonds	do	3 00	4 35
	Preserved:			
	In tins	Kilo	10	15
	In sirup	do	04	06
25	Furs	do	80	1 15
26	Glass:			
	Common, bottles, &c	100 kilos	3 20	4 60
	Fine, bottles, &c	do	5 60	8 05
	Slabs	do	2 72	3 91
	Mirrors and eye-glasses	do	12 80	18 40
27	Glucose	do	2 50	3 60
28	Glue	do	18 00	29 00
29	Gunpowder	Kilo	05	09

* With 20 per cent. additional.

Tariff duties of Porto Rico—Continued.

Number.	Articles.	Unit.	Duty on American productions.	
			Under Spanish and American flag.	Under other foreign flag.
30	Hair	100 kilos	$13 12	$18 86
31	Hay	do	3 48	5 04
32	Hides and skins:			
	Hides	do	10 00	14 50
	Skins	Kilo	25	36
33	Honey	100 kilos	9 00	9 00
34	Hops	do	4 50	6 75
35	Ice		Free	Free.
36	India-rubber and manufactures:			
	Raw sheets, tube, hose, shoes, life-preservers, and other analogical articles.	Kilo	20	29
	All other manufactures	do	60	89
37	Iron and steel:			
	Iron:			
	Cast, bar, and old	100 kilos	60	87
	Tubes and ordinary manufactures	do	96	1 38
	Fine manufactured	do	4 00	5 80
	Iron and steel, forged in bars, springs, axles, &c	do	1 60	2 32
	Wire, nails, screws	do	2 60	3 77
	Iron, manufactured with baths of zinc, painted or varnished:			
	Common	do	2 56	3 68
	Fine	do	5 00	7 25
	Needles, pens, and other analogical manufactures	Kilo	80	1 10
	Knives, razors, scissors	do	29	40
	Arms (swords, &c.)	do	60	87
	Arms, fire	do	1 20	1 74
38	Jewelry:			
	Gold	Hectogram	6 00	9 00
	Silver	do	90	1 35
39	Lamps:			
	Copper	100 kilos	16 40	23 78
	Copper gilt	do	40 00	58 00
	Zinc	do	6 00	8 70
	Common metal	do	8 00	11 50
	Tin	do	9 60	13 92
	Porcelain	do	6 48	9 00
	Earthenware	do	3 60	5 00
	Glass	do	5 60	8 05
40	Lead:			
	Raw	do	6 00	8 70
	Manufactured:			
	Common	do	8 00	11 50
	Fine	do	20 00	29 00
41	Leather:			
	Tanned	Kilo	25	36
	Manufactured in pieces	do	45	65
	Shoes and boots	do	55	80
	Articles of saddlery	do	40	58
	Gloves	do	4 00	5 80
	Other manufactures	do	80	1 15
42	Lime and cement:			
	Lime:			
	Raw		Free	
	Manufactured	Kilo	16	23
	Cement:			
	Manufactured	do	16	23
43	Malt liquors	Hectoliter	2 40	3 48
44	Medical instruments pay duties on the materials of which they are composed with 50 per cent. additional.			
45	Naval stores, resin, tar, and turpentine and pitch	100 kilos	53	76
46	Oil cake and meal	do	40	58
47	Oils:			
	Animal:			
	Raw	do	4 00	5 80
	Purified	do	3 60	5 80
	Mineral	do	2 00	2 88
	Vegetable	do	4 50	6 75
48	Paraffine and wax:			
	Paraffine	do	5 40	8 70
	Wax	do	10 80	17 40
49	Paints:			
	Raw	do	48	69

Tariff duties of Porto Rico—Continued.

Number.	Articles.	Unit.	Duty on American productions.	
			Under Spanish and American flag.	Under other foreign flag.
49	Paints—Continued.			
	In powder	100 kilos	$2 88	$4 14
	In oil	do	1 26	2 03
50	Paper:			
	Printing	do	3 00	4 35
	Writing	do	6 90	8 70
	Wall paper:			
	Gilt	do	24 00	34 80
	Other	do	6 00	8 70
	Straw paper	do	2 00	2 90
	Pasteboard:			
	Raw	do	2 72	3 91
	Manufactured	do	32	46
51	Plated ware	do	40 00	58 00
52	Provisions:			
	Meat:			
	Fresh	do	2 80	4 06
	Salt	do	2 26	3 25
	Oleomargarine, not imported.			
	Lard	do	3 52	5 06
	Butter	do	6 40	9 20
	Cheese	Kilo	06	09
53	Quicksilver	100 kilos	2 72	3 91
54	Seeds	do	40	58
55	Soap:			
	Common	do	2 99	3 77
	Fine	Kilo	36	53
56	Spirits	Hectolfter	9 25	13 35
57	Starch	100 kilos	2 50	3 60
58	Sugar, all kinds, and molasses	do	9 00	9 00
59	Tin:			
	Raw	do	2 56	3 68
	Manufactured	do	9 60	13 92
60	Tobacco:			
	Leaf	Kilo	35	35
	Cigars and cigarettes	do	70	70
61	Vegetables:			
	Fresh	100 kilos	61	87
	Preserved	do	1 28	1 84
62	Wood:			
	Hogsheads and hoops	do	27	35
	Barrels	do	1 38	1 88
	Boards, beams, scantling, and for naval purposes	Centimeter	1 30	1 76
	Shingles and clapboards	100 kilos	22	30
	For carving and like purposes	do	1 60	2 32
	Furniture:			
	Common	do	6 25	9 06
	Fine	do	18 75	27 18
	Extra fine	do	30 00	43 50
63	Wool	do	13 12	18 86
64	Zinc	do	2 56	3 68

NOTES.—(1) On all the above rates 6 per cent. additional duty. (2) Duties are payable in Spanish gold, but the treasury admits payments at present in Mexican silver at $1.05263 for $1 Spanish.

The full tariff of Porto Rico was printed in Consular Reports No. 50, p. 440.

TURK'S ISLAND.

The full tariff of Turk's Island was printed in Consular Reports No. 28, p. 178.

SOUTH AMERICA.

ARGENTINE REPUBLIC.

[Prepared by Consul E. L. Baker.]

I am in receipt of the circular of the Department of State of the date of April 19, 1886, instructing me to report the Customs duties that are collected under the laws of the Argentine Republic on certain specified articles of importation, the rate of duty to be given both in the native currency and in United States money.

In responding to the requirements of this circular, I would premise that the national currency of the Argentine Republic corresponds so nearly to the money of the United States that a column of equivalents seems to be unnecessary, the value of the Argentine gold dollar, or peso, being 96.5 cents estimated in United States gold dollars. In other words, the Argentine dollar is the exact equivalent of the well-known five-franc piece of France.

I would further premise that the Argentine customs tariff is not a continuing law, but runs only for the year for which it is enacted, each Congress modifying its provisions and its rates to suit itself or the emergencies of the nation at each annual session.

I may add that the Argentine customs tariff, except in reference to a few specified articles, is entirely ad valorem; and that, for the imports levied by the Government, the custom-house valuations of all imported articles are officially regulated and fixed by the executive department at the beginning of each year; and hence the mere rate of duty would convey to our importers a very imperfect idea of the Argentine tariff, unless the official valuation is also given. For this reason I deem it proper not only to report the terms and rates of the tariff of this country, but also the values on which the customs duties are made.

The following is a translation of the Argentine tariff for the year 1886:

CUSTOM-HOUSE LAW.

ARTICLE 1. All foreign merchandise imported for consumption shall pay a duty of 25 per cent. on its value in deposit, except the following articles, to wit:

(1) All tobaccos, which shall pay a duty of 55 per cent.

(2) Fire-arms, powder, and munitions, perfumery, cigars of all kinds, and snuff, which shall pay a duty of 50 per cent.

(3) Ready-made clothing and confections, hats and caps, shoes, saddles and harness, carriages, furniture, matches (except wax), fire-crackers, yerba mate, and objects of art, which shall pay a duty of 45 per cent.

(4) Iron, not galvanized, in plates, bars, ingots, hoops, white pine and spruce (unworked), common salt, all kinds of writing and printing paper, which shall pay a duty of 10 per cent.

(5) Sackcloth, jewelry, gold and silver (worked), silk thread and fringe, every instrument or utensil with a handle or having gold or silver adornment (when these increase its value one-third), plows, staves, and casks of wood or iron, printed books, with paper binding or in cloth, or pasteboard without gold edges, printing-presses, printing materials, with the exception of types, lithographic presses, machinery of all kinds for agricultural or industrial establishments, steam-engines, or pieces of the same, thread wire for binding purposes, sulphuric acid, and sulphate of lime, which shall pay a duty of 5 per cent.

(6) Precious stones unset, which shall pay a duty of 2 per cent.

(7) The following specific duties are hereby imposed, to wit:

Wheat	per 100 kilograms..	$1 65
Starch	per kilogram..	05
Coffee	do....	08
Macaroni	do....	07
Crackers and biscuits	do....	09
Flour and corn-meal	do....	04

Hominy	per kilogram..	$0 04
Tea of every quality	do....	30
Sugar	do....	07
Common wines in casks	per liter..	06
Fine wines in casks	do....	22
Wine, bottled, of every class	do....	22
Beer or cider, per liter or bottle	do....	15
Alcohol in casks, not exceeding 30 degrees	do....	15
Liquors not exceeding 25 degrees	do....	15
Alcohol in bottles, not less than 1 liter	per bottle..	25
Liquors in bottles, not less than 1 liter	do....	25
Liquors of greater strength than 25 degrees	In proportion.	
Kerosene	per liter..	25
Candles, sperm and stearine	per kilograms..	15
Stearine	do....	12
Playing cards	per gross..	10 00
Wax matches	per kilogram..	50

Articles of weight shall pay the duty with their packages included.

ART. II. The following articles shall be imported free of duty, to wit: Vessels, and machinery for steamers, stove coal, wire for fencing and for telegraphs, breeding animals and cattle on the hoof, fresh fish and fruit, furniture and tools of immigrants of little value, gold and silver, coined or in bullion; plants, railway and tramway materials, locomotives, wheels, with or without axles; iron pipes for gas or water, quicksilver, frames for casks, special powder for mines, church ornaments asked for by ecclesiastics, school books and furniture, asked for by the school board; quicksilver, seeds for agricultural purposes, sheep dips for the cure of scab, and such articles as are excepted by special laws or contracts made in pursuance of laws of Congress.

ART. III. All kinds of produce of the country are free of export duties except the following, which shall pay according to their value, to wit:

(1) Washed and unwashed wool, skins of wild animals, sheep-skins, washed or unwashed, and ostrich feathers shall pay an export duty of 4 per cent.

(2) Animal oils, horns and horn-piths, bone ash, hair, hide-cuttings, grease, tallow, bones, and hides not enumerated above, which shall pay an export duty of 3 per cent.

ART. IV. Import duties shall be liquidated in accordance with a tariff of values formed on the basis of the price of the articles in deposit; and export duties shall be based on the price of the articles prepared for shipment. The duties on such articles as are not included in this tariff shall be paid on the declared value by those dispatching them.

ART. V. Custom-houses may retain for a period of forty-eight hours after inspection of the vista for account of the public treasury all merchandise whose declared value is considered too low, paying immediately to those interested the declared value with 10 per cent. addition in bills on the treasurer at ninety days' sight.

ART. VI. The executive department shall designate and fix the values of all merchandise and products which may be included in the tariff provided for in Article IV.

ART. VII. On all wines, oils, alcohols, beer, and liquors in casks, 5 per cent. shall be allowed for leakage, if they proceed from ports north of the equator; and of 2 per cent. if they proceed from ports south of that line. On the same articles in bottles 2 per cent. shall be allowed for breakage, from whatever ports they may proceed. On other articles the tare, leakage, and breakage shall be fixed in the tariff of values.

ART. VIII. All export duties shall be paid at the first port of departure, and must be dispatched directly for their foreign destination, it not being permitted to ship them from one port to another of the Republic without having first satisfied the duties.

ART. IX. All import duties must be satisfied before the delivery of the merchandise; when its value exceeds $200 the payment must be made by bills on stamped paper with the proper stamps, drawn at ninety days' sight, with interest, and guaranteed to the satisfaction of the collector of the port. In all other cases the payment must be made in cash.

ART. X. All export duties must be paid in cash before the clearance of the vessel.

ART. XI. The internal transit of merchandise which has not paid import duties in some custom-house of the Republic is prohibited, except as follows:

(1) That which passes from Brazilian ports for those of Concordia, Federacion, and Paso de los Libres.

(2) That which passes from Chili to the custom-houses of Salta and Jujuy.

(3) That which passes from the custom-houses of Buenos Ayres and Rosario for those of Mendoza, San Juan, Salta, and Jujuy, and from there to Bolivia and Chili.

ART. XII. The executive department shall establish *tornaguias* (landing certificates) if agreements to this end can be arranged with the adjacent countries above named.

ART. XIII. This law shall continue in force during the year 1886.

AN ADDITIONAL DUTY.

The duties established by the foregoing tariff are recharged with the addition of 1 per cent. fixed by the third article of the Law of the Estimates (*Ley del Presupuesto*), which is as follows:

ART. III. The merchandise and products which, according to the customs law of 1886, are subject to duty shall pay an import duty of 1 per cent. additional.

From the tariff of values issued by the Argentine Government in pursuance of Articles IV and VI of the above tariff law, I translate and transcribe the following, which shows the official values and the rates of duty on the articles enumerated in the circular of the Department of State:

Tariff of custom-house values.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
1	Agricultural implements:			
	Plows:			
	Iron	Each	$4 00	5 per cent.
	Steel	do	10 50	Do.
	Spades, with or without handles	Kilo	15	25 per cent.
	Handles for spades, hoes, rakes, &c	Dozen	$1 50 to 6 00	Do.
	Axes and hatchets	Kilo	36	Do.
	Cutting knives and sickles	Dozen	1 24 to 5 00	Do.
	Machines:			
	For adjusting wire fences	Kilo	40	Do.
	For making butter	Each	2 20 to 3 20	Do.
	Fanning-machines	do	(*)	5 per cent.
	Corn mills	do	5 00	25 per cent.
	Thrashing-machines	do	(*)	5 per cent.
	Steam engines	do	(*)	Do.
	Shovels and scoops	Kilo	17 to 25	25 per cent.
	Millstones	Each	40 00	Do.
	Mowers	do	40 00	5 per cent.
	Reapers	do	200 00	Do.
2	Animals of all kinds			Free.
3	Art works		(*)	45 per cent.
4	Barks and extracts		(*)	25 per cent.
5	Blacking	Kilo	27	Do.
6	Bones, hoofs, and horns		(*)	Do.
7	Books, maps, engravings, &c:			
	Books:			
	With paper covers	do	45	Do.
	With pasteboard covers	do	68	Do.
	With cloth covers	do	1 00	Do.
	Engravings and maps		(*)	Do.
8	Brass and manufactures of brass:			
	Ingots, bars and sheets	Kilo	50	Do.
	Wire	do	43	Do.
	Mortars	do	80	Do.
	Rings	do	80	Do.
	Scales (mounted)	Each	9 00 to 11 50	Do.
	Buckets	Kilo	80	Do.
	Trays	do	80	Do.
	Knockers	do	1 20	Do.
	Hinges	do	80	Do.
	Chains	do	80	Do.
	Bells:			
	Large	do	1 10	Do.
	Small	do	60	Do.
	Padlocks	do	1 60	Do.
	Faucets	do	1 00	Do.
	Tubes and piping	do	72	Do.
	Locks	do	2 00	Do.
	Nails	do	50	Do.
	Chandeliers	do	80	Do.
	Spurs	do	1 50	Do.
	Stirrups	do	1 20	Do.
	Bridle-bits	Dozen	5 00 to 16 00	Do.
	Knobs	Kilo	60	Do.
	Handles	do	1 20 to 1 60	Do.
	Coffee-pots	do	40	Do.
	Bolts	do	2 00	Do.
	Curry-combs	Dozen	00	Do.
	Smoothing-flats	Kilo	80	Do.
	Plumbs	do	62	Do.
	Tacks	do	50	Do.
	Rivets	do	80	Do.
	Screws	do	1 50	Do.
	Buttons	do	80	Do.
	Tholes	do	80	Do.

* Declared value.

Argentine tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
9	**Breadstuffs:**			
	Barley	Kilo	$0 03	25 per cent.
	Biscuits and crackers	do	30	9 cts. per kilo.
	Indian corn:			
	In the ear	do	01	4 cts. per kilo.
	Shelled	do	02	Do.
	Corn meal	do	06	Do.
	Oats	do	06	25 per cent.
	Rye	do	06	Do.
	Wheat	do	08	$1.65 per 100 kilometers.
	Flour	do	08	4 cts. per kilo.
10	Bricks			Free.
11	Brooms	Dozen	1 50	25 per cent.
	Brushes	do	$1 80 to 4 00	Do.
12	Candles:			
	Sperm	Kilo	90	Do.
	Stearine	do	30	15 cts. per kilo.
13	Carriages and tram cars:			
	Landeaus	Each	1,000 00	45 per cent.
	Coupés	do	800 00	Do.
	Victorias	do	600 00	Do.
	Breck	do	300 00	Do.
	Tilbury	do	200 00	Do.
	Tram or horse car	do	(*)	Do.
14	Railroad materials and railway cars	do		Free.
15	Chemicals		(*)	25 per cent.
16	Clocks and watches:			
	Gold watches	Each	(*)	5 per cent.
	Silver watches	do	4 00 to 9 00	Do.
	Clocks, wood or zinc	do	2 00 to 6 00	25 per cent.
17	Coal			Free.
18	Copper, bars, ingots or sheets	Kilo	50	25 per cent.
19	Cotton manufactures		1 20	Do.
	Baize	do	50	Do.
	Bagging	do	1 00	Do.
	Duck	do	1 00	Do.
	Cassimeres, mixed	do	2 00	Do.
	Counterpanes	do	1 20 to 2 30	Do.
	Curtains, lace	do	4 00	Do.
	Ticking	do	1 30	Do.
	Crinoline	do	1 00	Do.
	Damask, mixed	do	3 00 to 12 00	Do.
	Fringe	do	1 00	Do.
	Flannel, mixed	do	1 25	Do.
	Bed-comforts	do	60	Do.
	Domestics and shirtings	do	35	Do.
	Grenadines, muslins, &c.	Sq. meter	13	Do.
	Prints, ginghams, &c.	Kilo	80	Do.
	Checks, lists, &c.	do	1 25	Do.
	Sacking	do	42½	Do.
	Ponchos and shawls	do	1 20 to 1 60	Do.
	Stockings	do	1 50	Do.
	Socks	do	1 70	Do.
	Merinos, mixed	do	2 00	Do.
	Handkerchiefs	do	1 25	Do.
	Handkerchiefs, bordered	do	1 60	Do.
	Piqué	do	1 50	Do.
	Canvas	do	1 30	Do.
	Napkins	do	1 00	Do.
	Netting	do	1 40	Do.
	Towels and toweling	do	85 to 1 30	Do.
	Tulle	Sq. meter	08	Do.
	Veils	Dozen	1 40	Do.
	Thread	Kilo	1 30	Do.
20	Earthen, stone, and china ware:			
	Sugar bowls	Dozen	2 00 to 4 00	Do.
	Coffee-pots	do	2 00 to 4 00	Do.
	Candlesticks	do	1 80 to 2 00	Do.
	Preserve-dishes	do	2 50 to 6 00	Do.
	Salad dishes	do	2 50 to 6 00	Do.
	Spittoons	do	2 50 to 7 50	Do.
	Dishes for meats	do	2 00 to 10 00	Do.
	Do	do	2 50 to 9 00	Do.
	Egg-stands	do	5 00 to 9 50	Do.
	Egg-cups	do	60 to 80	Do.
	Soap-dishes	do	60 to 3 00	Do.
	Jars	do	60 to 8 00	Do.
	Pitchers, washing	do	3 50 to 6 00	Do.

*Declared value.

Argentine tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
20	Earthen, stone, and china ware—Continued.			
	Pitchers, with metal tops	Dozen	$4 50 to $7 50	25 per cent.
	Chamber-sets, three pieces	Set	3 00 to 6 90	Do.
	Butter-dishes	Dozen	2 00 to 3 00	Do.
	Mustard-dishes	do	1 00 to 2 00	Do.
	Basins	do	2 50 to 8 00	Do.
	Dinner plates	do	45 to 1 00	Do.
	Dessert plates	do	30 to 80	Do.
	Plates, with stand	do	1 50 to 3 50	Do.
	Powder-pots	do	1 50 to 3 00	Do.
	Cheese-dishes	do	2 00 to 3 50	Do.
	Pickle-dishes	do	1 00 to 5 00	Do.
	Salts	do	2 00 to 5 00	Do.
	Soup-dishes	do	7 50 to 18 00	Do.
	Cup and saucers	do	50 to 1 80	Do.
	Tea-pots	do	2 50 to 4 00	Do.
21	Fertilizers		(*)	Do.
22	Fish:			
	Fresh			Free.
	In brine	Kilo	1 45	25 per cent.
	Salmon:			
	In oil	do	65	Do.
	In tins	do	52	Do.
	Sardines:			
	In oil	do	37½	Do.
	In brine	do	13	Do.
	Cod	do	17	Do.
	Oysters, canned	do	40	Do.
	Anchovy	do	58	Do.
23	Flax, hemp, and jute manufactures:			
	Linens (or mixed with cotton)	Sq. meter	20 to 40	Do.
	Jute (or mixed with cotton)	Kilo	1 10	Do.
	Duck	do	45	Do.
	Table-cloths	do	1 80	Do.
	Stockings	do	10 00	Do.
	Handkerchiefs	Dozen	3 00	Do.
	Napkins	Kilo	1 80	Do.
	Towels and toweling	do	1 80	Do.
	Thread	do	1 00 to 2 00	Do.
24	Fruits:			
	Preserved	do	42	Do.
	Preserved in sirup	do	52	Do.
	Fresh, in tins	do	25	Do.
	In liquor	do	33	Do.
25	Furs		(*)	Do.
26	Glassware:			
	Casters, with wooden stand	Dozen	5 00 to 10 00	Do.
	Sugar-dishes	do	2 10 to 4 20	Do.
	Bottles	do	2 10 to 7 00	Do.
	Candlesticks	do	3 00 to 7 00	Do.
	Ice-cream dishes	do	70 to 1 50	Do.
	Wine-glasses	do	40 to 70	Do.
	Preserve-dishes	do	4 00 to 9 00	Do.
	Fruit-dishes	do	4 00 to 9 00	Do.
	Trays	do	2 50 to 6 00	Do.
	Flower-stands	do	(*)	Do.
	Pitchers	do	3 50 to 7 00	Do.
	Sets of three pieces	Set	(*)	Do.
	Butter-dishes	Dozen	2 00 to 4 00	Do.
	Mustard-dishes	do	1 00 to 2 00	Do.
	Flower-pots	do	1 50 to 3 00	Do.
	Punch-bowls	do	2 10 to 3 50	Do.
	Cheese-dishes	do	5 00 to 20 00	Do.
	Salt-stands	do	30 to 60	Do.
	Spittoons	do	2 50	Do.
	Tumblers		40 to 70	Do.
27	Glucose		(*)	Do.
28	Glue	Kilo	20	Do.
29	Gunpowder:			
	Ordinary	do	50	50 per cent.
	Fine	do	1 20	Do.
	Artillery	do	35	Do.
	Mining	do		Free.
30	Hair:			
	Human	do	20 00	25 per cent.
	Rabbit	do	35	Do.
	Other		(*)	Do.
32	Hides and skins:			
	Calf	Kilo	2 10 to 3 50	25 per cent.
	Goat	do	2 10 to 4 00	Do.

*Declared value.

Argentine tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
32	Hides and skins—Continued.			
	Kid	Dozen	$8 50 to $14 00	25 per cent.
	Sheep	do	7 00 to 14 00	Do.
	Hog	Each	3 00	Do.
	Lamb	Dozen	5 50 to 9 50	Do.
	Horse	Each	6 00 to 8 00	Do.
	Sole leather	Kilo	80 to 1 80	Do.
33	Honey	do	15	Do.
34	Hops	do	(*)	Do.
35	Ice	do	(*)	Do.
36	India-rubber manufactures:			
	Impermeable caps	Dozen	6 50 to 12 00	Do.
	Impermeable aprons	do	6 00	Do.
	Impermeable spatter-dashes	Pairs	1 60 to 3 20	Do.
	Impermeable gloves	Dozen prs.	2 75	Do.
	Impermeable cloth	Square meter.	80 to 1 20	Do.
	Impermeable boots	Pair	1 30	Do.
	Impermeable overcoats	Dozen	25 00	Do.
	Impermeable cloaks	Each	6 00	Do.
	Impermeable overshoes	Dozen	2 50 to 4 00	45 per cent.
37	Iron and steel manufactures:			
	Steel:			
	In bars	Kilo	80 to 1 20	Do.
	In sheets	do	09	Do.
	Needles	do	20	Do.
	Wire:			
	Common	do	06 to 08	Do.
	Galvanized	do	13	Do.
	Iron:			
	Hooks or brackets	do	07½	Do.
	Knockers	do	30	Do.
	Fish-hooks	do	62	Do.
	Rings and staples	do	13 to 18	Do.
	Spits	do	07½	Do.
	Adzes	do	50	Do.
	Scales, small	Dozen	8 00	Do.
	Scales, platform	Kilo	05	Do.
	Buckets	do	16	Do.
	Trays	do	42	Do.
	Tubs	do	20	Do.
	Vises	do	25	25 per cent.
	Boat-hooks	Dozen	4 50	Do.
	Anvils	Kilo	15	Do.
	Hinges	do	18 to 24	Do.
	Fire-pans	do	06	Do.
	Stew-pans	do	19 to 20	Do.
	Chains	do	11	Do.
	Chains, galvanized	do	16	Do.
	Safes	do	20	45 per cent.
	Padlocks	do	41	25 per cent.
	Piping	do	06	Do.
	Coal-hods	Each	95 to 3 00	Do.
	Anchor-stocks	Kilo	10	Do.
	Bolts	do	50 to 80	Do.
	Chimneys	do	(*)	Do.
	Nails	do	09	Do.
	Knives and forks	Dozen	3 00 to 7 00	Do.
	Grain knives or sickles	do	12 00 to 25 00	Do.
	Stirrups	Kilo	25 to 1 00	Do.
	White iron	do	36	Do.
	Bridle-bits	Dozen	85 to 5 00	Do.
	Hooks	Kilo	16 to 25	Do.
	Rings	do	13	Do.
	Shackles	do	11	Do.
	Hatchets and axes	do	36	Do.
	Horseshoes	do	10	Do.
	Pots	do	08	Do.
	Pitchforks, &c	do	30	Do.
	Shovels and tongs	Sets	1 00 to 4 00	Do.
	Chopping-knives	Dozen	1 24 to 4 00	Do.
	Fetters	do	4 00	Do.
	Printing presses	Each	(*)	5 per cent.
	Washing-machines	do	1 20 to 16 00	25 per cent.
	Sewing-machines	do	8 00 to 12 00	Do.
	Churning-machines	do	2 20 to 3 00	Do.
	Hammers	Kilo	35	Do.
	Coffee-mills	Dozen	5 00 to 6 00	Do.
	Steam-engines		(*)	5 per cent.
	Dishes and kettles	Kilo	5 to 36	25 per cent.
	Shovels	do	17 to 25	Do.

*Declared value.

Argentine tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
37	Iron and steel manufactures—Continued.			
	Iron—Continued.			
	Ladles and trowels	Dozen	$1 50 to $2 10	25 per cent.
	Gridirons	Kilo	31	Do.
	Curry-combs	Dozen	1 00	Do.
	Racks	Kilo	26 to 40	Do.
	Latches	....do	31	Do.
	Nippers	Dozen	3 60	Do.
	Flat-irons	Kilo	70	Do.
	Iron posts and palings	....do	36	Do.
	Tacks	....do	11	Do.
	Scrapers	....do	25	Do.
	Stands and tables	....do	12 to *25	Do.
	Springs	....do	30	Do.
	Rails for railways			Free.
	Castors	....do	12 to 80	25 per cent.
	Spurs	....do	60	Do.
	Nut crackers	Dozen	2 10	Do.
	Wheels for railways			Free.
	Frying-pans	Kilo	15 to 21	25 per cent.
	Tacks (wrought)	....do	12	Do.
	Augers and gimlets	....do	3 50 to 6 20	Do.
	Scissors	....do	41 to 1 00	Do.
	Types	....do	52	Do.
	Beams and girders	....do	05	Do.
	Screws	....do	15	Do.
	Axles	....do	20	Do.
	Turning lathes	....do	(*)	5 per cent.
	Rat-traps	....do	20	25 per cent.
	Tripods	....do	10	Do.
	Nuts	....do	12	Do.
	Anvils	....do	15	Do.
	Trucks and barrows	Each	5 90	Do.
38	Jewelry:			
	Jewelry and silverware		(*)	5 per cent.
	Alarm and striking clocks	Dozen	12 00 to 52 00	25 per cent.
	Cases for jewelry	....do	3 70 to 6 20	Do.
	Precious stones unset:			
	Brilliants	Grams	90 00	2 per cent.
	Emeralds	....do	17 00	Do.
	Pearls	....do	18 00	Do.
	Rubies	....do	20 00	Do.
	Rose diamonds	....do	50 00	Do.
	Sapphires	....do	11 00	Do.
	Other	....do	(*)	Do.
	Gold watches	Each	4 00 to 9 00	5 per cent.
	Nickel-plated watches	....do	2 00 to 4 00	25 per cent.
	American wooden or zinc clocks	....do	2 00 to 6 00	Do.
	Clocks, other classes	....do	(*)	Do.
	Jewelers' utensils, &c		(*)	Do.
	Glasses and crystals	Hundred	1 60	Do.
39	Lamps:			
	Bronze chandeliers for gas or kerosene	Kilo	1 60 to 3 00	Do.
	2 lights	Each	17 00	Do.
	3 lights	....do	22 00	Do.
	4 lights	....do	28 00	Do.
	5 to 6 lights	....do	33 00	Do.
	7 to 10 lights	....do	50 00	Do.
	Brackets, glass:			
	1 light	....do	3 50	Do.
	2 lights	....do	7 00	Do.
	3 lights	....do	9 00	Do.
	Pendants, brass	Kilo	1 60 to 3 00	Do.
	Counter-weights for chandeliers	....do	15	Do.
	Table lamps, glass or metal	Dozen	3 50	Do.
	Hand lamps, glass or metal	....do	1 50	Do.
	Large mantle lamps		(*)	Do.
	Wicking	Kilo	1 50	Do.
	Tubes for wicks	Dozen	1 50 to 12 00	Do.
	Shades	....do	1 50 to 3 00	Do.
	Receivers	....do	2 10 to 4 00	Do.
	Reflectors	....do	2 40	Do.
	Chimneys	....do	38 to 1 50	Do.
40	Lead:			
	In sheets	Kilo	11	Do.
	In ingots or bars	....do	09	Do.
	Pipe	....do	15	Do.
	Shot and balls	....do	10	50 per cent.
	Candlesticks	....do	80	25 per cent.
	Cartridges	....do	45 to 60	50 per cent.

* Declared value.

Argentine tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
41	Leather manufactures:			
	Saddles:			
	For men	Each	$8 00 to $18 00	45 per cent.
	For women	do	9 00 to 20 00	Do.
	Saddle-trees	Dozen	7 00 to 15 00	25 per cent.
	Harness:			
	Single	Each	30 00 to 40 00	45 per cent.
	Double	do	60 00	Do.
	Carriage whips	Dozen	1 50 to 5 00	25 per cent.
	Valises	Each	2 60 to 9 00	Do.
	Trunks	do	(*)	Do.
	Muzzles	Dozen	10 00	45 per cent.
	Cruppers	do	2 00	Do.
	Girths	do	6 50 to 12 00	Do.
	Girths, long	Pair	1 20	Do.
	Reins for bridles	Dozen	50	Do.
	Headstalls, bridles	do	1 50	Do.
	Collars	do	3 00 to 25 00	25 per cent.
	Portmanteaus	Each	3 50	Do.
	Martingales	do	1 50	45 per cent.
	Breast-straps	do	1 60 to 2 50	Do.
	Carriage reins	Dozen	5 80 to 28 00	Do.
42	Lime and cement:			
	Quicklime	100 kilos	2 10	25 per cent.
	Slack-lime	Hectoliter.	73	Do.
	Italian cement	100 kilos	1 80	Do.
	Other cement	Hectoliter.	73	Do.
43	Malt liquors:			
	Beer and ale:			
	In bottles	Dozen	2 32½	15 cts. per lit'r.
	In casks	Liter	16½	Do.
44	Medical instruments		(*)	25 per cent.
45	Naval stores:			
	Rosin	Kilo	07	Do.
	Tar	do	06½	Do.
	Turpentine	do	50	Do.
	Varnish	do	62	Do.
	Benzine, in tins	Liter	10	Do.
	Pitch	Kilo	07	Do.
46	Oil cake	do	(*)	Do.
47	Oils:			
	Animal	Kilo	(*)	Do.
	Mineral—kerosene, naphtha, and petroleum	Liter	07½	25 cts. per lit'r.
	Vegetable—olive, and other	Kilo	25 to 35	25 per cent.
48	Paraffine and wax	do	45 to 1 20	Do.
49	Paints	do	12 to 32	Do.
50	Paper:			
	Wall	do	22 to 2 00	Do.
	Wrapping	do	50	Do.
	Drawing	do	52	Do.
	Writing and printing	do	26	Do.
	Linen	do	85	Do.
	Straw	do	11	Do.
	For bags	do	16	Do.
	Bags	do	19	Do.
51	Plated ware:			
	Plated and electroplated:			
	Ordinary	do	2 00	Do.
	Good	do	4 00	Do.
	Electroplate:			
	Of Barton & Reed, Meriden Co	do	6 00	Do.
	Of Christofle	do	8 00	Do.
52	Provisions:			
	Fresh meats	do	54	Do.
	Hams			Free.
	Beef and pork, in brine	do	15	25 per cent.
	Bacon	do	45	Do.
	Oleomargarine	do	52	Do.
	Lard	do	32	Do.
	Butter	do	52	Do.
	Cheese	do	60	Do.
53	Quicksilver			Free.
54	Seeds			Do.
55	Soap	do	11 to 28	25 per cent.
56	Spirits:			
	High wines and alcohol:			
	In casks	Liter	15	15 cts. per lit'r.
	Bottled	Dozen	4 14	Do.

* Declared value.

Tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
56	Spirits—continued.			
	Bitters:			
	Angostura, bottled	Dozen	$31 00	15 cts. per lit'r.
	Other brands, bottled	do	5 15	Do.
	In casks	Liter	42	Do.
	Champagne, bottled	Dozen	8 27	Do.
	Cognac:			
	Bottled	do	6 00	Do.
	In casks	Liter	86	Do.
	Gin:			
	Bottled	do	17	Do.
	In casks	do	13	Do.
	Snaps, bottled	Dozen	3 00	Do.
	Liqueurs:			
	Bottled	do	$6 00 to 15 00	Do.
	In casks	Liter	50	Do.
	Rum:			
	Bottled	Dozen	8 00	Do.
	In casks	Liter	40	Do.
	Wines:			
	Port, madeira, sherry, and muscatel	Dozen	8 00	Do.
	Same, in casks	Liter	52	Do.
	Italian, common	do	10	Do.
	Rhein	do	50	Do.
	French and imitations, in casks	do	10½	Do.
	French and imitations, bottled	Dozen	6 00	Do.
	Whisky:			
	Bottled	do	4 20	Do.
	In casks	Liter	40	Do.
57	Starch	Kilog	20	5 cts. per kilo.
58	Sugar:			
	Refined	do	19	7 cts. per kilo.
	Unrefined	do	18	Do.
	Molasses	do	15	25 per cent.
59	Tin:			
	In bars or ingots	do	42	Do.
	In sheets	do	10	Do.
60	Tobacco:			
	Leaf, ordinary	do	32	55 per cent.
	Plug:			
	Black	do	41½	Do.
	Chewing	do	50	Do.
	Cut, smoking	do	1 08	Do.
	Cigars:			
	In boxes	do	2 00	50 per cent.
	Loose	do	2 50	Do.
	Cigarettes	do	2 00	Do.
61	Vegetables:			
	Fresh			Free.
	Onions	do	04	25 per cent.
	Potatoes	do	05	Do.
	Beans	do	06	Do.
	Peas	do	04½	Do.
	Put up in tins or bottles	do	40	Do.
62	Wood and its manufactures:			
	Cedar:			
	In boards	Sq. meter	60	Do.
	In beams	do	50	Do.
	White pine or spruce:			
	Boards	do	41	10 per cent.
	Planed	do	50	25 per cent.
	Pitch-pine:			
	Boards	do	50	10 per cent.
	Planed	do	58	25 per cent.
	Walnut or maple	do	1 00	Do.
	Mahogany	do	1 70	Do.
	Mahogany or walnut veneering	do	16	Do.
	Rosewood veneering	do	35	Do.
	Staves for barrels	do	(*)	5 per cent.
	Lepacho, quebracho, &c., in beams	do	20	25 per cent.
	Nandubury and algorrobo posts	Each	45	Do.
	Oars for boats	Pair	2 00	Do.
	Furniture:			
	Sideboards, according to quality	do	32 to 100 00	45 per cent.
	Piano-stools, according to quality	do	2 20 to 3 80	Do.
	Foot-stools, according to quality	do	1 30 to 2 00	Do.
	Foot-stools, American pine	Dozen	6 50 to 12 00	Do.
	Billiard tables	Each	(*)	Do.

* Declared value.

Tariff of custom-house values—Continued.

No.	Tariff classification.	Unit.	Custom-house or official value.	Rate of duty.
62	Wood and its manufactures—continued.			
	Bedsteads:			
	Double, according to quality	Each	$32 00 to $65 00	45 per cent.
	Single, according to quality	....do	5 50 to 10 00	Do.
	Coffins, according to quality	....do	(*)	Do.
	Chiffonniers, according to quality	....do	25 00 to 45 00	Do.
	Commodes, according to quality	....do	12 00 to 40 00	Do.
	Canopies, according to quality	....do	3 50 to 10 00	Do.
	Center tables, according to quality	....do	4 50 to 22 00	Do.
	Cradles and cribs, according to quality	do	3 50 to 12 00	Do.
	Cradles and cribs, American pine	Dozen	16 00	Do.
	Secretaries, according to quality	Each	8 50 to 78 00	Do.
	Book-cases, according to quality	...do	28 00 to 50 00	Do.
	Music-stands, according to quality	...do	3 00 to 10 00	Do.
	Otagas, American make	Dozen	40 00 to 70 00	Do.
	Cornices for curtains	Each	3 00 to 10 00	Do.
	Bedroomsets, consisting of bed, commode, washstand, stand, towel-rack, 4 chairs, rocking-chair, and night-table, American make.	Set	52 00	Do.
	Same, with wardrobe	....do	68 00	Do.
	Bed-room sets, consisting of bed, commode, washstand, wardrobe, and night table, American make.	Set	42 00	45 per cent.
	Furniture, veneered with rosewood, valued as rosewood.	Each		Do
	Washstands, according to quality	....do	5 20 to 55 00	Do
	Workstands, according to quality	.. do	1 50 to 4 20	Do
	Dining tables, according to quality	....do	20 00 to 35 00	Do
	Dining tables, American make	....do	11 50	Do
	Night tables, according to quality	....do	1 50 to 20 00	Do
	Carving tables, according to quality	....do	15 00 to 45 00	Do
	Tables with marble tops	....do	15 00 to 25 00	Do
	Clothes and hat racks or stands	....do	2 60 to 9 00	Do
	Book shelves or stands	....do	18 00 to 25 00	Do
	Wardrobes, according to quality	....do	28 00 to 75 00	Do
	Chairs, American make:			
	Pine, painted	Dozen	5 00 to 30 00	Do
	Walnut	...do	50 00	Do
	For parlor, pine	....do	15 00	Do
	For parlor, walnut	....do	60 00	Do
	For children, pine	...do	5 00 to 15 00	Do
	For children, walnut	....do	35 00	Do
	For office, pine	....do	25 00	Do
	For office, walnut	....do	40 00	Do
	Mahogany, rosewood, &c	...do	40 00 to 85 00	Do
	Sofas:			
	Painted wood	Each	4 00 to 15 00	Do
	Mahogany, walnut, &c	....do	14 00 to 24 00	Do
	Rosewood	....do	20 00 to 30 00	Do
	Dressing tables, according to quality	....do	5 20 to 9 00	Do
	Furniture not enumerated		(*)	Do
63	Wool	Kilogram	(*)	25 per cent.
64	Zinc:			
	Ingots	....do	08	Do
	Sheets or strips	do	11	Do
	Bathing tubs	Each	1 20	Do
	Nails	Kilogram	20	Do
	Tubing and piping	....do	15	Do

* Declared value.

The full tariff of the Argentine Republic was printed in Consular Reports No. 5, p. 379; the modifications in No. 35, p. 58.

BRAZIL.

Under the tariff system of Brazil certain rates of duty are established called "duties of consumption," to each and every one of which 60 per cent. is added. The rates given in this report are those of the said duties of consumption, *exclusive* of the 60 per cent. additional, which is the plan followed in the tariff publications of the Brazilian treasury department. It is to be noted also that under the recent emancipation law a further duty of 5 per cent. has since the first ultimo been collected on all general imposts, the object of the new tax being to provide a fund for the liberation of slaves.

In the case of tobacco there is a special impost of 40 per cent., so that on this article there are four rates of duty, levied in the following order: The original or basic rate, the 60 per cent. additional, the 40 per cent. special impost, and the 5 per cent. surtax.

Attention is also called to the following points in regard to this report:

(1) The rates of duty on brass and copper and their manufactures are given together, since the Brazilian tariff classification makes no separation of the two articles.

(2) In the case of plated ware no special and distinctive classification is provided by the tariff, the rates of duty coming under the head of those levied on various plated articles.

(3) The rate of exchange at which the currency conversions are made is 42 cents to the milreis—the rate now prevailing.

Customs duties collected on various articles at the port of Rio de Janeiro.

[Report of Vice-Consul-General Charles R. McCall.]

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
1	Agricultural implements	.....	Free	.....	.....
2	Animals:				
	Cattle of all kinds, hogs, horses, mules, and sheep.	.....	....do	.....	.....
	Ferocious	Each	20,000	Each	$8.40
3	Art works, ad valorem.				
4	Bark and extracts:				
	Barks for medical and dyeing purposes:				
	Cinnamon and the like	Kilo	400	Pound	.08
	Oak, Brazil wood, quercitron (*Quercus tinctoria*) or American bark, Campeachy wood, sandal wood, guiacum, sassafras, and any other kind suitable for tanning or dyeing.	....do	50	....do	.0095
	Not specified	....do	250	....do	.0475
	Extracts:				
	Pastel or gall-nut	....do	150	....do	.0285
	Campeachy wood, Brazil wood, &c.	....do	90	....do	.0171
	Not specified	....do	400	....do	.076
5	Blacking:				
	Liquid	....do	60	....do	.0114
	In mass or powder	....do	200	....do	.038
6	Bones, hoofs, horns, &c:				
	Bones:				
	Cuttle-fish	....do	100	....do	.019
	Not classified	....do	50	....do	.0095
	Hoofs, horns:				
	Rhinoceros, unicorn, and sea-horse	....do	100	....do	.019
	Cattle	....do	20	....do	.0038
	Buffalo, deer, in mass	....do	40	....do	.0076
7	Books, maps, engravings, &c.:				
	Books:				
	Unbound or bound in pasteboard; lined with paper, cloth, leather, or skin; simple or with ornaments of any material except of silver or gold	....do	100	....do	.019

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
7	Books, maps, engravings, &c.—Continued				
	Books—Continued.		*Reis.*		
	In ivory, mother-of-pearl, or tortoise-shell	Kilo	2,000	Pound	$0.38
	In silk, velvet, or wood	do	1,000	do	.19
	With ornaments of silver or gold, ad valorem				
	Maps:				
	Geographical, hydrographical, and the like	do	100	do	.019
	Engravings	do	2,000	do	.38
8	Brass and copper:				
	In the Brazilian tariff classification the duties on brass and its manufactures are included under the head of Copper and manufactures; hence, duties on these articles must necessarily be given together.				
	In the rough or prepared, strained, in file-dust, in bars, hammered, in sheets, bottoms, or rolls, with or without combination with other metal.	do	180	do	.034
	Manufactures:				
	Needles	do	2,400	do	.45
	Table-plates, salvers, waiters, cruet-stands, liquor-stands, spoons, forks, and the like, for domestic use; basins, jars, and other toilet articles; card-stands, vases, and other articles for drawing-room tables, and of fancy; of copper or its compounds:				
	Simple	do	1,000	do	.19
	Silver plated, all or in part	do	1,800	do	.34
	Gilded in part or entirely	do	2,800	do	.53
	Cradles:				
	Simple	Each	5,000	Each	2.10
	Ornamented	do	10,000	do	4.20
	Jewelry, of any kind, plain, gilt, or silver-plated.	1 kilo	2,500	Pounds	.47
	Buttons of white or yellow metal:				
	With holes, for pants	do	400	do	.07
	For coats, uniforms, &c:				
	Simple, polished, or varnished, with emblem or lettering.	do	800	do	.15
	Gilt or silver-plated, with numbers, lettering, or emblems.	do	2,500	do	.47
	Nose-bands for horses	Each	250	Each	.105
	Padlocks:				
	Common	Kilo	700	Pound	.133
	With letters, secret locks	do	2,000	do	.38
	Chairs and stools:				
	Plain	Each	1,800	Each	.756
	With handwork or ornament	do	3,000	do	1.26
	With rockers, and others not classified	do	5,000	do	2.10
	Beds:				
	Plain:				
	For one person	do	7,000	do	2.94
	For more than one person	do	12,000	do	5.04
	For children	do	5,000	do	2.10
	With ornaments:				
	For one person	do	15,000	do	6.30
	For more than one person	do	25,000	do	10.50
	For children	do	10,000	do	4.20
	Bells:				
	Common, for doors, clocks, animals, and the like.	Kilo	500	Pound	.095
	For tables and churches:				
	Plain, or polished simply	do	800	do	.152
	With handwork, gilded or silver-plated, and the like.	do	1,500	do	.285
	Fringes, galloons cords, lace-work and similar objects, gilded or silver-plated or spangled.	do	1,800	do	.342
	Plates:				
	Smooth, for engraving purposes	do	300	do	.057
	Opened with a burin, with sculpturing, for commercial papers, &c.	do	10,000	do	1.90
	Idem, idem, for stamping purposes	do	2,500	do	.47
	Mounted upon other metal or wood	do	600	do	.11
	Collars, for animals	do	1,800	do	.34
	Rosaries, gilded or silver-plated	do	2,500	do	.47

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
8	Brass and copper—Continued.				
	Manufactures—Continued.				
	Epaulettes, shoulder-straps, and the like	Kilo	1,800	Pound	$0.34
	Spurs:				
	Large, called "Chilian," and the like	Dozen	6,000	Dozen	2.52
	Not specified	do	3,000	do	1.26
	Stirrups:				
	Filed	do	2,400	do	1.008
	Polished, with a spring	do	9,600	do	4.032
	Polished, without a spring	do	4,800	do	2.016
	For side-saddles	do	3,600	do	1.512
	Large or small, called *cacambas* or *estriberas*.	do	12,000	do	5.04
	Locks:				
	With only one turn and without hole in the key.	Kilo	700	Pound	.18
	With two turns and secret ward, and others not classified.	do	1,200	do	.23
	Wire:				
	Of white or yellow metal	do	300	do	.06
	Covered with paper, cotton or rubber	do	500	do	.10
	Gilt, silver-plated or covered with silk	do	1,000	do	.19
	Manufactured:				
	Pins, clasps for buttons, plain, galvanized, or varnished.	do	800	do	.15
	In cordage	do	180	do	.03
	Cages or rat-traps	do	1,200	do	.23
	Cloth:				
	In pieces or bolts	do	700	do	.13
	In any manufactures	do	1,200	do	.23
	Not classified	do	800	do	.15
	Sheets for gilding or silver-plating	do	2,500	do	.48
	Bridles of any kind:				
	Filed, with or without curb-chains	Each	500	Each	.21
	Polished, without curb-chains	do	900	do	.378
	Tinsel, white or colored	Kilo	1,000	Pound	.19
	Medals for collections, archæological, and numismatical.	do	600	do	.11
	Powder-horns	do	1,000	do	.19
	Nails, tacks, rivets, and screws of any kind	do	360	do	.07
	Tubes of copper	do	300	do	.6
	Any other manufactures not classified:				
	Filed or simply polished, varnished, bronzed, or galvanized, simple or ornamented with other ordinary metal.	do	600	do	.11
	Gilt or silver-plated in all or in part	do	1,200	do	.23
9	Breadstuffs:				
	Barley	do	020	do	.004
	Biscuits:				
	Ship-biscuits	do	010	do	.002
	Any other kind, crackers, &c	do	220	do	.04
	Indian corn:				
	White corn of Angola for birds' food	do	050	do	.01
	All other kinds	do	005	do	.001
	Oats	do	010	do	.002
	Rye	do	020	do	.004
	Wheat		Free		
10	Flour	do	010	do	.002
11	Bricks				
	Brooms and brushes:				
	Brooms of any kind	Dozen	2,400	Dozen	1.008
	Brushes, of hair:				
	With handles or backs entirely of ivory, mother-of-pearl, or tortoise-shell:				
	For clothes, hats, and the head, &c	do	26,000	do	10.92
	For nails, teeth, cleaning combs, &c	do	4,000	do	1.68
	With handles or backs of horn or wood, with or without ornament:				
	For cleaning metal, &c	do	300	do	.126
	For clothes, hats, hair	do	2,400	do	1.008
	For teeth, nails, combs, and beard	do	600	do	.252
	For cleaning tables, scouring houses, &c	do	2,400	do	1.008
	For shoes, harness, and animals with or without *alça* (strap).	do	600	do	.252
	Not specified	do	800	do	.336
	Brushes, of straw:				
	For clothes, hats, and hair	do	2,400	do	1.008

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
11	Brooms and brushes—Continued.				
	Brushes of straw—Continued.		*Reis.*		
	For animals, with or without handles	Dozen	600	Dozen	$0.252
	For other uses	do	1,200	do	.504
	Brushes, for friction, &c	do	2,400	do	1.008
12	Candles:				
	Wax	do	700	do	.294
	Spermaceti	do	400	do	.168
	Tallow	do	180	do	.075
	Stearine	do	400	do	.168
	Paraffine	do	400	do	.168
13	Carriages and horse-cars, 40 per cent. ad valorem.				
14	Cars (railroad, steam), 10 per cent. ad valorem.				
15	Chemicals:				
	Acetates:				
	Of alumina	Kilo	200	Pound	.04
	Of ammonia or of ammoniacal solution or solid.	do	150	do	.03
	Of lead, liquid or crystallized, salt or vinegar of lead or of saturn.	do	200	do	.04
	Of copper:				
	Ammoniacal	do	3,000	do	.57
	Crystallized or in powder	do	150	do	.03
	Of silver	Gram	030	Gram	.012
	Of cobalt	Kilo	6,000	Pound	1.14
	Of iron	do	150	do	.03
	Of any other metal not specified	do	600	do	.11
	Of alkaloids or organic bases, such as morphia, quinine, and the like.	Gram	040	Gram	.016
	Acids:				
	Acetic, strong or crystallizable, and free from acetate of copper.	Kilo	100	Pound	.02
	Arsenical or white oxide of arsenic	do	050	do	.01
	Benzoic	do	1,600	do	.30
	Bromic	do	1,000	do	.19
	Perchloric	do	2,000	do	.38
	Formic	do	1,200	do	.23
	Hydrochloric or muriatic:				
	Pure or without color	do	050	do	.01
	Impure or colored	do	010	do	.02
	Iodic, pure	do	2,000	do	.38
	Lactic	do	1,300	do	.25
	Nitric:				
	Pure or uncolored	do	060	do	.01
	Impure or colored	do	020	do	.004
	Oxalic	do	050	do	.009
	Phenic or carbolic	do	400	do	.08
	Phosphoric:				
	Solid or glacial	do	800	do	.15
	Liquid	do	100	do	.02
	Prussic, hydrocyanic or cyanhydric	do	800	do	.15
	Pyroacetic or wood-vinegar	do	040	do	.008
	Sulphuric, oil or spirit of vitriol:				
	Pure or uncolored	do	050	do	.009
	Impure, of commerce	do	005	do	.0009
	Sulphuric, liquid	do	050	do	.009
	Tartaric	do	150	do	.03
	Valerianic	do	3,000	do	.57
	Not specified	do	450	do	.09
	Aconite	Gram	150	Gram	.063
	Waters:				
	English	Kilo	500	do	.095
	Distilled:				
	Of flowers, oranges, roses, lettuce (wild)	do	240	do	.045
	Not specified	do	500	do	.095
	Mineral, natural or artificial, of any kind	do	100	do	.02
	Of woundwort	do	600	do	.11
	Albumins, animal and dry	do	1,000	do	.19
	Alkaloids, or organic bases, natural or artificial, and their salts not classified.	Gram	040	Gram	.016
	Alcohol:				
	Potato oil	Kilo	600	Pound	.11
	Methylated of wood spirits	do	300	do	.057
	Gun-cotton	do	2,500	do	.475
	Alumina, dry or gelatine	do	1,600	do	.30
	Amber, grey or ash color	Gram	100	Gram	.042
	Ammonia, liquid, volatile or spirit of salt ammonia.	Kilo	100	Pound	.02

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
15	Chemicals—Continued.				
	Antimoniates:				
	Of simple potassium or diaphoretic antimony.	Kilo	600	Pound	$0.11
	Of quinine and of other alkaloids not specified.	Gram	040	Gram	.016
	Medicinal roots of any kind	Kilo	400	do	.08
	Arseniate of potassium or soda:				
	Pure	do	800	do	.15
	Impure, for arts and industries	do	150	do	.03
	Arseniate:				
	Of silver	Grama	030	do	.012
	Of any other metals not specified	Kilo	1,200	Pound	.23
	Of alkaloids or organic bases, as of quinine, morphine, and others.	Gram	040	Gram	.016
	Sugar of milk	Kilo	600	Pound	.11
	Balsam, manipulated, not specified	do	1,000	do	.19
	Benzine	do	100	do	.02
	Benzoates:				
	Metallic, of any kind	do	5,000	do	.95
	Of quinine and other organic basis	Gram	040	Gram	.016
	Biscuit, medicinal, of any kind	do	600	do	.11
	Balls of Nancy	do	600	do	.11
	Borates:				
	Of silver	Gram	030	Gram	.012
	Of soda (sub or bi) or borax molded or crystallized.	Kilo	100	Pound	.02
	Of any other metal not specified	do	1,500	do	.285
	Of alkaloids, such as quinine, morphine and others.	Gram	040	Gram	.016
	Bromal hydrates	Kilo	6,000	Pound	1.14
	Reacting chemicals for use of laboratories, 10 per cent. ad valorem.				
	Cantharides	do	1,800	do	.34
	Capsules and medicinal confections of any kind	do	1,200	do	.23
	Cantharadine	Gram	100	Gram	.042
	Carbonates:				
	Of ammonia alkali, volatile, concrete, or sesqui carbonate of ammonia	Kilo	110	Pound	.0209
	Of bismuth	do	2,000	do	.38
	Of cadmium	do	6,000	do	1.14
	Of lead or white lead	do	040	do	.008
	Of iron	do	200	do	.04
	Of magnesia	do	200	do	.04
	Of lithia	do	5,000	do	.95
	Of potassium:				
	Impure. Dantzic, pearl-ash, or commercial	do	010	do	.002
	Purified, salt of tar or vegetable alkali	do	100	do	.02
	Bicarbonate of potassium	do	150	do	.03
	Silver	Gram	030	Gram	.012
	Of soda or mineral alkali:				
	Ordinary, or dark, or unmanufactured	Kilo	010	Pound	.002
	White, refined, purified, in crystals	do	050	do	.0095
	Bicarbonate of soda	do	100	do	.02
	Of zinc:				
	Pure or precipitated	do	500	do	.095
	Impure, natural, or calamine stone, prepared	do	150	do	.03
	Of other metals not specified	do	1,000	do	.19
	Of alkaloids	Gram	040	Gram	.016
	Charcoal, vegetable, pure, or medicinal, for electric lighting of any kind.	Kilo	600	Pound	.11
	Castoreum, powdered or whole	do	6,000	do	1.14
	Beer, medicinal of any kind	do	300	do	.057
	Chloral, of any kind	do	2,000	do	.38
	Chlorate:				
	Of potassium and soda	do	200	do	.038
	Of any other metal	do	800	do	.15
	Of alkaloids	Gram	040	Gram	.016
	Chloroform	Kilo	1,400	Kilo	.266
	Chlorodyne	do	4,000	do	.76
	Salt of Boutigny	do	6,000	do	1.14
	Chlorates, hydrochlorates, muriates:				
	Of ammonia	do	150	do	.03
	Of ammonia and mercury, or ammonia and iron, or flour of salt of ammonia.	do	1,000	do	.19

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
15	Chemicals—Continued.				
	Chlorates, hydrochlorates, muriates—Continued.				
	Butter of antimony:				
	Liquid	Kilo	500	Kilo	$0.005
	Solid or concrete	do	800	do	.15
	Of bismuth	do	2,000	do	.38
	Of cadmium	do	10,000	do	1.90
16	Of lime or hypochlorate of lime	do	050	do	.0095
	Clocks and watches:				
	Watches:				
	Copper and its combinations	Each	1,000	Each	.42
	Silver	do	1,200	do	.50
	Gold-plated	do	1,500	do	.63
	Gold	do	2,400	do	1.00
	Clocks:				
	Alarm:				
	Small, of white or yellow metal	do	1,000	do	.42
	Not specified, 30 per cent. ad valorem.				
	Ship chronometers	do	20,000	do	8.40
17	Not specified, 30 per cent. ad valorem.				
18	Coal	Free.			
19	(See No. 8.)				
	Cotton, manufactures of:				
	Hat brims	Kilo	300	Pound	.057
	Lacing, tassels, head-wear, dress ornaments, and the like.	do	2,400	do	.456
	Rugs and carpets	do	600	do	.11
	Flannels and shag	do	600	do	.11
	Caps and coiffs:				
	Of knit-work	do	3,000	do	.57
	Not specified, 30 per cent. ad valorem.				
	Cotton-velvet, and bombazine	do	1,500	do	.285
	Caps for men	Each	300	Each	.12
	Buttons	Kilo	900	Pound	.17
	Braid or edging of any kind	do	800	do	.15
	Covers for hats, pianos, &c	do	1,000	do	.19
	Muslin and cambric:				
	Coarse smooth, white or colored, for lining:	do	800	do	.15
	Embroidered by hand or machine:				
	Not exceeding in weight 4 kilograms per 100 meters.	do	5,000	do	.95
	Exceeding 4 kilograms per 100 meters	do	2,500	do	.475
	In cuts for dresses, coifs, and skirts	do	10,000	do	1.90
	Any other kind:				
	Not exceeding in weight 4 kilograms per 100 meters.	do	5,000	do	.95
	Exceeding 4 kilograms per 100 meters	do	2,500	do	.475
	In cuts for dresses, coifs, and skirts	do	6,000	do	1.14
	Shawls, handkerchiefs, mantles, cloaks, and ponchos:				
	Common, thick or merino, muslin, satinet, or any other fabric.	do	1,200	do	.23
	Of lace, 30 per cent. ad valorem.				
	Hats:				
	Plain	Each	400	Each	.16
	Ornamented	do	600	do	.25
	Cigar and cigarette holders	Kilo	3,500	Pound	.665
	Girths	Each	300	Each	.12
	Quilts, stuffed with cotton	Kilo	600	Pound	.11
	Bed covering, with or without mixture of wool:				
	White, dark, or striped, with or without fur.	do	320	do	.06
	Embroidered or damasked, imitating fustian and the like.	do	750	do	.14
	Umbrella covers	do	650	do	.12
	Cords, plats, and stay-bands:				
	Imitating straw for ornaments of hats	do	5,000	do	.95
	Of any other kind	do	800	do	.15
	Corsets	Each	1,200	Each	.50
	Lace:				
	Of knit-work:				
	Smooth, plain:				
	Not exceeding in weight 4 kilograms per 100 meters.	Kilo	7,000	Pound	1.33
	Exceeding 4 kilograms per 100 meters.	do	2,500	do	.475
	Ornamented or embroidered	do	7,000	do	1.33
	Gummed, for lining hats	do	1,500	do	.285
	Not specified	do	2,500	do	.475

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
19	Cotton, manufactures of—Continued.				
	Linings and pointed strips for hats:		*Reis.*		
	Simple	Kilo	1,000	Pound	$0.19
	Gummed or oiled	do	600	do	.11
	Fustians and satinets:				
	Plain	do	1,500	do	.285
	Embroidered	do	1,800	do	.34
	Galloons, ribbons, and fringes	do	2,500	do	.475
	Cravats, plain or embroidered	Dozen	600	Dozen	.25
	Holland, raw, white or colored	Kilo	600	Pound	.11
	Sheets, spreads, pillow-cases, towels, and napkins;				
	Embroidered with lace, 30 per cent. ad valorem.				
	Smooth, duties are the same as those on the respective cloths or goods.				
	Lawns and half lawns	do	300	do	.057
	Gloves:				
	Common	Dozen pair	700	Dozen pair	.39
	Any other kind	do	1,800	do	.75
	Saddle-blankets:				
	Of fabrics of *xerga* (a kind of coarse cotton cloth).	Kilo	500	Pound	.095
	Of any other fabric	Each	500	Each	.21
	Mantles, chemises, and other articles of fashion, of lace or other fabric, 30 per cent. ad valorem.				
	Socks and stockings:				
	Of Scotch thread:				
	Short:				
	Up to 20 centimeters long in the foot	Dozen pair	1,200	Dozen pair	.50
	More than 20 centimeters long in the foot.	do	2,400	do	1.00
	Long:				
	Up to 20 centimeters long in the foot	do	2,400	do	1.00
	More than 20 centimeters long in the foot.	do	4,800	do	2.02
	Not classified:				
	Short:				
	Up to 20 centimeters long in the foot	do	300	do	.12
	More than 20 centimeters long in the foot.	do	600	do	.25
	Long:				
	Up to 20 centimeters long in the foot	do	600	do	.25
	More than 20 centimeters long in the foot.	do	1,200	do	.50
	Oil-cloths	Kilo	500	Pound	.095
	Thin goods:				
	Starched, ordinary, white, colored, or dyed, for lining only; varnished, transparent, suitable for plans and maps.	do	600	do	.11
	Not classified:				
	Smooth:				
	White	do	600	do	.11
	Colored or printed	do	1,200	do	.23
	Embroidered, striped, &c	do	1,500	do	.285
	Cloth:				
	Common, smooth or twilled	do	400	do	.08
	Bleached or colored, smooth or twilled	do	600	do	.11
	Embroidered or damasked	do	1,200	do	.23
	Napped, for towls and napkins	do	600	do	.11
	Striped, for pouches	do	900	do	.17
	Tablecloths:				
	Embroidered, 30 per cent. ad valorem.				
	Not classified	do	1,200	do	.23
	Hammocks of any kind	do	1,200	do	.23
	Laces of cotton or of cotton mixed with wool or linen:				
	Valenciennes, &c	do	10,000	do	1.90
	Any other kind	do	4,000	do	.76
	In patterns or ornaments for dresses, veils, &c., 30 per cent. ad valorem.				
	Stripes and checks:				
	Up to 12 threads in 5 millimeters	do	600	do	.11
	More than 12 threads in 5 millimeters	do	1,200	do	.23
	Embroidered or damasked	do	1,500	do	.285

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
19	Cotton, manufactures of—Continued.				
	Ready-made clothing:				
	Shirts:				
	Knit:		*Reis.*		
	Common, for working class	Dozen	1,000	Dozen	$0.42
	Any other kind	do	2,000	do	.84
	Any other make:				
	Smooth or folded	do	4,500	do	1.89
	Smooth or folded, with linen breasts	do	8,500	do	3.57
	Drawers:				
	Knit, including bathing drawers	Dozen	2,000	Dozen	.84
	Of any other fabric or make	do	3,600	do	1.51
	Collars for shirts	do	600	do	.25
	Breasts for shirts, smooth or folded	Kilo	2,000	Pound	.38
	Cuffs for shirts	Doz. pair	900	Doz. pair	.38
	Not classified:				
	Knit work	Kilo	2,000	Pound	.38
	Lace, 30 per cent. ad valorem.				
	Any other kind or fabric, duties are double those on the respective fabrics.				
	Embroidered or ornamented, 30 per cent. ad valorem.				
	Shoes, small, without soles, for children, simple or embroidered.	Pair	100	Pair	.04
	Suspenders, belts, and garters, plain or embroidered.	Kilo	2,600	Pound	.494
	Lamp-wicks, plain or close-woven	do	500	do	.095
	Window-shades	Each	1,000	Each	.42
	Scraps	Kilo	010	Pound	.002
	Veils:				
	Embroidered, 30 per cent. ad valorem.				
	Not classified, the duties are the same as those on the respective fabrics.				
	Gauze and the like, woven, with false gold or silver.	do	2,000	do	.38
	Blue cotton cloth (*zuarte*)	do	600	do	.11
	Raw cotton:				
	In the seed	do	060	do	.011
	Lint	do	150	do	.03
	Yarn:				
	Simple, for weaving or knitting, white or colored.	do	100	Pound	.02
	Twisted or plaited, for wicks	do	100	do	.02
	Twisted thread of any kind, in spools or balls, for crochetting, &c.	do	600	do	.11
20	Earthen, stone, and china ware:				
	Earthenware:				
	Of porcelain or kaolin	do	020	do	.004
	Not specified	do	400	do	.08
	Stoneware:				
	Simple	do	050	do	.0095
	Ornamented, painted, stamped	do	080	do	.016
	Enameled, black, of Japan stone and the like, or of any stone with any kind of gilding.	do	150	do	.03
	Chinaware:				
	Simple white	do	200	do	.04
	Ornamented, stamped, painted, or enameled	do	300	do	.057
	Painted, stamped, or enameled with gilding of any kind, and what is called "biscuit ware."	do	600	do	.11
21	Fertilizers		Free		
22	Fish:				
	Not classified, oysters, shell-fish, and other molluscs and spawn:				
	Salted, dried, or pickled	Kilo	020	Pound	.004
	Preserved, in whatever manner prepared	do	300	do	.057
23	Flax, hemp, and jute manufactures:				
	Flax and hemp:				
	In the rough	do	002	do	.0004
	Prepared, dressed, combed, or in "strikes," colored or painted.	do	005	do	.00095
	In thread:				
	Simple, for woof or warp, raw, white, or colored.	do	150	do	.03

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
23	Flax, hemp, and jute manufactures—Continued.				
	Flax and hemp—Continued.				
	Twisted, as sewing thread of any quality, in spools, skeins, or clews, for sewing, crocheting, and the like.	Kilo	600	Pounds ...	$0.11
	For shoemakers' use	....do	180	....do	.034
	Tow in the rough or in branches (*rama*) ...	....do	005	....do	.00095
	Thread for wounds, simple or in sheets (*pasta*).	....do	200	... do	.04
24	Fruits, preserved:				
	Green chestnuts, filberts, cocoanuts, other nuts, and olives of all kinds.	....do	050	....do	.0095
	Dried raisins of all kinds.....	....do	100	....do	.02
	Any fruits, cocoanuts, nuts, classified or not:				
	Preserved in spirits, sirup, or jelly	....do	300	....do	.057
	Preserves, dry or without juice, and crystallized or prepared in any other way.	....do	500	....do	.095
25	Furs of hares, rabbits, beavers, &c	....do	120	....do	.023
26	Glass and manufactures:				
	In fragments, rough or broken	Free	.....	.....	.....
	In bulk:				
	Conical or in tubes, for cutting, smoothing, and polishing.	Kilo	800	....do	.15
	Cut, smoothed, and polished, or false stones.	....do	4,000	....do	.70
	For windows or sky-lights:				
	White, smooth	....do	040	....do	.008
	Colored	....do	130	....do	.024
	Thick, for ships, &c.....	....do	130	....do	.024
	In plates or sheets:				
	Polished, without steel:				
	Up to 3 millimeters of thickness:				
	Up to 20 decimeters of surface.....	....do	015	....do	.0028
	More than 20 and up to 50	....do	030	....do	.006
	More than 50 and up to 100	....do	050	....do	.0095
	More than 100 and up to 200.....	....do	075	....do	.014
	More than 200	....do	110	....do	.021
	More than 3 millimeters of thickness:				
	Up to 20 decimeters of surface.....	....do	025	....do	.0047
	More than 20 to 50 decimeters.....	....do	050	....do	.0095
	More than 50 to 100 decimeters.....	....do	075	....do	.014
	More than 100 to 200 decimeters.....	....do	110	....do	.021
	More than 200 decimeters	....do	160	....do	.03
	Polished, with steel:				
	Up to 3 millimeters of thickness:				
	Up to 20 decimeters of surface	....do	025	....do	.0047
	More than 20 decimeters to 50.....	....do	050	....do	.0095
	More than 50 to 100 decimeters.....	....do	075	....do	.014
	More than 100 to 200 decimeters.....	....do	110	....do	.021
	More than 200 decimeters	....do	160	....do	.03
	More than 3 millimeters of thickness:				
	Up to 20 decimeters	....do	035	....do	.007
	Up to 50 decimeters	....do	080	....do	.016
	More than 50 up to 100 decimeters	....do	120	....do	.023
	More than 100 up to 200 decimeters.....	....do	160	....do	.03
	More than 200 decimeters	....do	220	....do	.041
	Needle-cases, bracelets, ear-rings, breast-pins	....do	2,500	....do	.475
	Buttons	....do	400	....do	.076
	Rosaries and beads:				
	Strung with satin, white or colored, in imitation of pearls, &c., hollow or fine.	....do	2,000	....do	.38
	In imitation of precious stones, molded, painted, polished, or perfumed.	....do	600	....do	.11
	Not classified	....do	2,500	....do	.475
	Crowns and other ornaments for tombs	....do	2,000	....do	.38
	Enamel:				
	Fine, for jewelers' use	....do	2,600	....do	.494
	Ordinary or vitrified cobalt for pottery.....	....do	1,200	....do	.23
	Flasks:				
	For cologne, vases and jars for flowers, figures, &c.	....do	800	....do	.15
	For any other articles of luxury	....do	1,200	....do	.23
	Of ordinary dark glass:				
	Without stopper or ornamental mouth.....	....do	030	....do	.006
	With stopper or ornamental mouth	....do	050	....do	.0095
	Of ordinary glass, white, greenish or bluish:				
	Without stopper or ornamental mouth.....	....do	060	....do	.011
	With stopper or ornamental mouth	....do	100	....do	.02

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money
26	Glass and manufactures—Continued.				
	Flasks—Continued.		*Reis.*		
	Bottles or flasks covered with hide or linen.	Kilo	400	Pound	$0.08
	Bottles or flasks covered with straw or vine.	....do	060	....do	011
	Lusters, chandeliers, branched candlesticks...	....do	1,000	....do	.19
	Files of any kind	....do	070	....do	.013
	Manufactures, not classified:				
	For table service:				
	Class No. 1	....do	200	....do	.38
	Class No. 2	....do	380	....do	.07
	For other uses:				
	Class No. 1	....do	300	....do	.057
	Class No. 2	....do	600	....do	.11
27	Glucose	....do	060	....do	.011
28	Glue or gelatine of any kind	....do	400	....do	.08
29	Gunpowder of any kind.....	....do	400	....do	.08
30	Hair:				
	Human hair, in the rough	....do	6,000	....do	1.14
	Horse-hair, or hair of any other animal.....	....do	120	....do	.022
	Human-hair manufactures:				
	Wigs, braids, or other manufactures for hair-dressers	....do	18,000	....do	3.42
	Rings, chains, watch-guards, bracelets, and the like, with or without ornament.....	....do	50,000	....do	9.50
	Bristles for shoemakers' use.....	....do	400	....do	.08
31	Hay or any other forage.....	....do	010	....do	.002
32	Hides and skins, raw, of any kind:				
	Green	....do	050	....do	.0095
	Dry or salted.....	....do	080	....do	.016
33	Honey	....do	160	....do	.03
34	Hops	....do	080	....do	.016
35	Ice	....do	002	....do	.00038
36	India-rubber manufactures:				
	Basins and other domestic utensils.....	....do	800	....do	.15
	Walking-sticks, whips, and the like.....	....do	1,500	....do	.285
	Tobacco-pouches	....do	1,200	....do	.23
	Dolls and other toys.....	....do	1,000	....do	.19
	Buttons of any kind	....do	1,200	....do	.23
	Shoes	....do	800	....do	.15
	Belts, suspenders, and the like:				
	Covered with silk	....do	8,000	....do	1.50
	Covered with any other goods or material..	....do	2,000	....do	.38
	Funnels, stoppers, and bottles	....do	800	....do	.15
	Fans	Each.....	1,000	Each	.42
	Combs and pen-holders.....	Kilo	1,200	....do	.23
	Prepared or in bulk:				
	For dentists' use	....do	1,000	....do	.19
	For office use	....do	600	....do	.11
	Bracelets, ear-rings, medals, and other ornaments	....do	3,000	....do	.57
	Woven with cotton, wool, or linen goods:				
	In pieces	....do	1,200	....do	.23
	In manufactures not classified	....do	1,800	....do	.342
	Woven with pure silk, or mixed with any other material:				
	In pieces.....	....do	1,800	....do	.342
	In manufactures not classified.....	....do	2,500	....do	.475
	Tubes, thread, sheets	... do	300	....do	.057
	Not classified, ad valorem.				
37	Iron and steel:				
	Iron:				
	Flat iron	....do	004	....do	.00076
	In bars, sheets, hoops, and arches of any kind.....	....do	010	... do	.002
	In coarse filings.....	....do	030	....do	.0057
	Steel, in small or large rods or in bars.....	....do	025	....do	.00475
	Manufactures of iron and steel:				
	Needles:				
	Small, for sewing, crocheting machines, &c	....do	1,500	....do	.285
	Not classified	....do	1,200	....do	.23
	Axles, and boxes for same.....	....do	200	Pound	.038
	Curry-combs	....do	150	....do	.0285
	Cables, large and small	... do	080	....do	.015
	Anchors, large and small, and grapnels	....do	060	....do	.011
	Fish-hooks	....do	1,000	....do	.19
	Saddle-bows...	Each	500	Each	.21

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
87	Iron and steel—Continued.				
	Iron—Continued.				
	Rings:		*Reis.*		
	For keys	Kilo	1,800	Pound	$0.342
	For any other use	do	200	do	.038
	Waiters, painted or varnished, with or without ornament.	do	500	do	.095
	Curb-chains	do	600	do	.11
	Cradles:				
	Simple	Each	1,500	Each	.63
	Ornamented	do	8,000	do	1.26
	Gas-burners	Kilo	700	Pound	.133
	Steel jewelry	do	2,500	do	.475
	Jew's-harps	do	400	do	.08
	Bridle-bits	Each	150	Each	.06
	Buttons:				
	For pants	Kilo	300	Pound	.057
	Not specified	do	800	do	.15
	Arms for steelyards	do	300	do	.057
	Safes:				
	Up to 50 centimeters in length	Each	20,000	Each	3.40
	More than 50, up to 75	do	40,000	do	16.80
	More than 75, up to 100	do	80,000	do	33.60
	More than 100, up to 125	do	120,000	do	50.40
	More than 125, up to 150	do	160,000	do	67.20
	More than 150, up to 175	do	200,000	do	84.00
	More than 175	do	240,000	do	90.80
	Nose-bands for animals	do	200	do	.084
	Padlocks:				
	Common	Kilo	300	Pound	.057
	With secret wards or letters	do	1,000	do	.19
	Chairs and stools:				
	Smooth or simple	Each	1,200	Each	.50
	With chasing or ornament	do	1,800	do	.75
	With rockers, or any others not specified.	do	6,000	do	2.52
	Beds:				
	Simple:				
	For one person	do	2,500	do	1.05
	For more than one person	do	4,200	do	1.89
	For children	do	1,500	do	.63
	Ornamented:				
	For one person	do	5,000	do	2.10
	For more than one person	do	9,000	do	3.78
	For children	do	3,000	do	1.26
	Plates:				
	For corset and dress stays	Kilo	600	Pound	.11
	Chased for letters, commercial papers, &c.	do	3,000	do	1.52
	Chased for making stamps	do	2,000	do	.38
	Galvanized for covering houses	do	020	do	.004
	Not specified	do	800	do	.15
	Keys, not classified	do	300	do	.057
	Spoons and forks	do	240	do	.045
	Collars for animals	do	600	do	.11
	Weight-holders for steelyards	do	300	do	.057
	Chains:				
	For steelyards, or with rings for fastening animals and the like.	do	120	do	.023
	In piece, or manufactured in any way not specified.	do	400	do	.08
	Horseshoe nails	do	150	do	.028
	Thimbles	do	400	do	.08
	Hinges of any kind	do	100	do	.02
	Tenter-hooks:				
	With flower work	do	400	do	.08
	Simple, of any form or make	do	150	do	.028
	Spurs:				
	Large, called Chilians, and the like	Doz. pairs.	3,600	Doz. pairs.	1.51
	Not specified	do	2,400	do	1.
	Stirrups:				
	Smoothed, galvanized, or varnished	do	1,200	do	.50
	Polished:				
	With spring	do	6,000	do	2.52
	Without spring	do	3,600	do	1.51
	For side-saddles	do	1,800	do	.75
	With toe-fenders	do	6,000	do	2.52

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
37	Iron and steel—Continued.				
	Iron—Continued.				
	Locks:		*Reis.*		
	With only one turn or ward	Kilo	200	Dos. pairs.	$0.038
	With two turns, and others not classified.	do	600	do	.11
	Foot-bolts, for doors of any kind	do	120	do	.023
	Wire:				
	Of any kind or thickness, simple	do	030	do	.0057
	Covered with paper, silk, or cotton	do	400	do	.08
	Galvanized, for fences	do	050	do	.0095
	Buckles:				
	Of iron, simple, galvanized, or varnished	do	500	do	.095
	Of iron or steel, polished for shoes, belts, dresses, or any other use.	do	900	do	.17
	Stoves	do	050	do	.0095
	Tin:				
	In sheets	do	050	do	.0095
	Made into any kinds of goods, not classified:				
	Simple	do	300	do	.057
	Painted or varnished, with or without ornaments of copper, zinc, &c.	do	600	do	.11
	Bridles:				
	Galvanized, with or without curb-chain	Each	300	Each	.12
	Polished, with or without curb-chains	do	600	do	.25
	Steel for tinder-boxes	do	400	do	.16
	Tables:				
	Smooth or simple	do	1,200	do	.50
	Ornamented	do	2,400	do	1.00
	Springs for doors, gratings, and other uses.	Kilo	200	Pound	.038
	Screws:				
	Large, for beds, &c	do	100	do	.02
	Not specified	do	200	do	.038
	Pens	do	2,600	do	.494
	Censers and braziers	do	300	do	.057
	Tin plates	do	200	do	.038
	Nails, tacks, and rivets:				
	Simple	do	060	do	.011
	With copper or bone heads	do	200	do	.038
	With ivory heads	do	2,400	do	.456
	Knobs, for doors, of any kind	do	600	do	.11
	Pulleys	do	200	do	.038
	Sofas:				
	Smooth or simple	Each	1,800	Each	.75
	Ornamented	do	3,600	do	1.51
	Rails:				
	For railroads		Free.		
	For warehouses and like uses	Kilo	010	Pound	.024
	Pipes:				
	Plated, for boilers, gas, and the like	do	030	do	.012
	Cast, for water, gas, &c	do	020	do	.008
	Casts:				
	Simple	do	050	do	.002
	Painted, varnished, or galvanized with any ordinary metal.	do	100	do	.02
	Enameled	do	200	do	.038
	Plated with gold or silver	do	400	do	.08
	Hammered:				
	Simple	do	100	do	.02
	Painted, varnished, or galvanized with any common metal.	do	200	do	.038
	Enameled	do	300	do	.057
	Plated with gold or silver	do	400	do	.08
	In pieces for building houses, vessels, bridges, fences, and the like, 10 per cent. ad valorem.				
38	Jewelry:				
	Gold:				
	With diamonds, rubies, sapphires, pearls, emeralds, or opals, 5 per cent. ad valorem.				
	Of any kind, simple or filagreed, or with coral, or with fine stones, not specified, or with false stones.	Gram	050	Gram	.02
	Silver:				
	Smooth, plated, stamped, enameled, or with false stones, simple or gilded and filagreed.	do	005	do	.002

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
38	Jewelry—Continued.				
	Silver—Continued.				
	Of any other kind, with mosaics, corals, pearls, fine stones, and other ornaments, 5 per cent. ad valorem.				
	In other manufactures not classified	Gram	005	Gram	$0.002
	Platina, manufactured in any way	do	050	do	.23
39	Lamps	Kilo	600	Pound	.11
40	Lead:				
	In bars, sheets, pieces, remnants, and of any other shape in the rough.	do	040	do	.008
	Thin sheets for snuff-boxes, &c	do	200	do	.038
	Pipes for aqueducts, and in sheets and plates	do	070	do	.0013
	Weights for steelyards	do	100	do	.02
	Manufactures, not classified:				
	Simple	do	500	do	.095
	Plated with silver	do	1,000	do	.19
	Gilded	do	1,500	do	2.855
41	Leather and manufactures:				
	Leather:				
	With hair:				
	Of the ermine, otter, beaver, &c	do	2,000	do	.38
	Not classified	do	500	do	.095
	Without hair:	do	100	do	.02
	In pieces	do	300	do	.057
	In rolls and tanned uppers				
	Of wild hogs, chamois, morocco, or false morocco, or sheep-skin.	do	500	do	.095
	Others not classified:				
	White, or of natural color	do	300	do	.057
	Colored, or glossed	do	500	do	.095
	Varnished of any kind	do	1,200	do	.23
	Whips, without handles	Dozen	2,000	Dozen	.84
	Carriage harness:				
	White, colored, or varnished:				
	Smooth, for one animal	Set	18,000	Set	7.56
	Ornamented with common metal	do	28,000	do	11.76
	Mounted with fine leather, gold, or silver.	do	36,000	do	15.12
	Of raw or tanned leather:				
	Smooth, for one animal	do	5,000	do	2.01
	With common metal ornaments	do	7,000	do	2.94
	Saddle-seats	Kilo	800	Pound	.15
	Bags, sacks, indispensables, and instrument-cases:				
	For sewing, simple or with silk	do	1,200	do	.23
	For traveling:				
	Plain	do	800	do	.15
	With ornaments of glass, bone, wood, horn, iron, &c.	do	1,400	do	.265
	With ornaments of mother-of-pearl, ivory, tortoise-shell, plated metals, &c.	do	3,000	do	.57
	Game-bags:				
	Simple	Each	600	Each	.25
	With shot or powder pouches	do	1,000	do	.42
	Caps:				
	Of tiger skins and other ordinary skins	do	400	do	.16
	Of the otter, beaver, and other fine skins	do	1,200	do	.50
	Head-stalls:				
	Of white color or tinted or varnished:				
	Plain	do	750	do	.31
	With common metal ornaments	do	900	do	.38
	Mounted with fine leather, gold, or silver.	do	1,200	do	.50
	Of raw or tanned leather	do	500	do	.21
	For fastening	do	400	do	.17
	Shoe-wear:				
	Boots:				
	High, for riding	Pair	6,000	Pair	2.52
	Not classified	do	4,000	do	1.68
	High shoes and gaiters, of leather or skin of any kind:				
	Up to 22 centimeters in length	do	600	do	.25
	More than 22 centimeters in length	do	1,600	do	.67
	Shoes and buskins, of leather or skin:				
	Up to 22 centimeters in length	do	240	do	.10
	More than 22 centimeters in length	do	700	do	.29

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
41	Leather and manufactures—Continued.				
	Shoe-ware—Continued.				
	Slippers of leather and skins:		*Reis.*		
	Up to 22 centimeters in length	Gram	150	Gram	$0.06
	More than 22 centimeters in length	do	240	do	.10
	Wooden-soled slippers or clogs	do	360	do	.15
	Covers for pianos, and the like	Kilo	2,400	Pound	.456
	Hats, of any kind	Each	1,000	Each	.42
	Shot-pouches:				
	Plain, or with one mouth	Dozen	2,400	Dozen	1.00
	Doubled, or like powder-flasks	do	4,000	do	1.68
	Girths	Each	300	Each	.12
	Harness-saddles:				
	Plain	do	4,000	do	1.68
	With ornaments of common metal	do	6,000	do	2.52
	Mounted with fine leather or gold or silver	do	7,200	do	3.02
	Collars:				
	Plain	do	1,200	do	.50
	With common metal ornaments	do	2,000	do	.84
	Mounted with fine leather or gold or silver	do	3,000	do	1.26
	Fans of any kind	do	800	do	.33
	Stirrup-leathers	Doz. pair	4,800	Doz. pair	2.01
	Stocks	Dozen	1,800	Dozen	.75
	Gloves:				
	Kid	Doz. pairs	4,800	Doz. pairs	2.01
	Chamois, beaver, and the like	do	3,000	do	1.26
	Valises:				
	Covered with sheep-skin, sail-cloth, &c.:				
	Up to 60 centimeters in length	Each	1,800	Each	.75
	From 60 to 80 centimeters	do	4,500	do	1.89
	More than 80 centimeters	do	8,000	do	3.36
	Of sole leather, varnished or not:				
	Up to 60 centimeters in length	do	4,000	do	1.68
	From 60 to 80 centimeters	do	8,000	do	3.36
	More than 80 centimeters	do	12,000		
	Saddle-blankets, sweat-leathers, and padded seats for saddles.	do	1,500	do	.63
	Cap-brims	Kilo	2,000	Pound	.38
	Breast-straps for horses:				
	White or colored	Each	1,000	Each	.42
	Varnished	do	2,000	do	.84
	Leggings	Pair	1,500	Pair	.63
	Tips of billiard-cues	Kilo	1,000	Pound	.19
	Cruppers:				
	White or colored	Dozen	2,400	Dozen	1.00
	Varnished	do	4,000	do	1.68
	Saddles:				
	For men:				
	Covered with hog-skin or chamois	Each	8,000	Each	3.36
	Covered with sheep-skin, or sheep-skin and hog-skin mixed.	do	3,200	do	1.35
	For women:				
	Covered with hog-skin or velvet	do	12,000	do	5.04
	Covered with chamois, morocco or sheep-skin.	do	7,200	do	3.02
	Pieces, cut for manufactures of hats	Kilo	1,000	Pound	.19
	For shoemakers' use:				
	Of colored or white leather	do	1,800	do	.34
	Varnished	do	2,400	do	.456
	For mail-bags, for military and other uses:				
	Of colored or white leather	do	1,800	do	.34
	Varnished	do	2,400	do	.456
42	Lime and cement:				
	Lime, in stone or dust (powder)	do	020	do	.004
	Cement, Roman, Portland, &c.:				
	In the rough or pulverised	do	005	do	.00095
	In small pieces, smooth or colored	do	020	do	.004
43	Malt liquors	do	120	do	.023
44	Medical instruments:				
	Needles:				
	For sewing and without handles	Dozen	200	Dozen	.08
	For Cooper's vaccine, with handles, and the like.	do	1,000	do	.42
	for cataracts, and the like	do	3,000	do	1.26
	Bavas's, for injections, and the like (small syringes).	Each	800	Each	.33
	Of any kind, with gold or silver head	Dozen	5,000	Dozen	2.10

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
44	Medical instruments—Continued.				
	Probes and catheters:				
	Of zinc, pewter, or any other common metal.	Dozen	700	Dozen	$0.29
	Of rubber	....do	300	....do	.12
	Of silver	....do	3,000	....do	1.26
	Apparatus:				
	Of Esmarch, and the like, for compression...	Each	700	Each	.29
	Of Potain, Dieulafoy, &c	....do	2,000	....do	.84
	For fractures of limbs	....do	1,000	....do	.42
	Bistouries:				
	With handles of bone, wood, horn, and the like.	Dozen	1,200	Dozen	.50
	With handles of ivory, tortoise-shell, mother-of-pearl, &c.	....do	2,400	....do	1.00
	Pincers and other instruments for teeth-pulling.	Each	400	Each	.17
	Surgical and dental instrument cases:				
	With instruments for removing flesh, for plugging teeth, with scalpels and other instruments of minor surgery:				
	Up to 6 instruments	....do	1,200	....do	.50
	Up to 12 instruments	... do	2,400	....do	1.00
	Up to 24 instruments	....do	4,800	....do	2.01
	Up to 50 instruments	....do	8,000	... do	3.36
	More than 50 instruments, 10 per cent. ad valorem.				
	With instruments of important surgery:				
	Up to 6 instruments	Each	2,000	Each	.84
	Up to 12 instruments	....do	4,000	....do	1.68
	Up to 24 instruments	....do	8,000	....do	3.36
	Up to 50 instruments	....do	15,000	....do	6.30
	More than 50 instruments, 10 per cent. ad valorem.				
	With cupping-glasses	Each	1,200	Each	.50
	Empty cases	Kilo	600	Pound	.11
	Empty pouches	....do	300	....do	.057
	Belts, abdominal and umbilical	Each	400	Each	.16
	Ear-trumpets, of rubber, and the like	....do	200	....do	.08
	Artificial teeth:				
	Loose, or in plates	Kilo	20,000	Pound	8.80
	Set in wax	....do	10,000	....do	1.90
	Scalpels, with wooden handles	Dozen	500	Dozen	.21
	Mashers	Each	1,500	Each	.63
	Surgical and dental mirrors	Dozen	2,400	Dozen	1.00
	Skeletons for anatomical studies, corpses, &c....	Kilo	200	Pound	.088
	Stillets, probes, &c.:				
	Of ordinary metal, steel or iron	Dozen	400	Dozen ..	.16
	Of silver	....do	800	....do	.33
	Knives for amputation	....do	3,600	....do	1.51
	Separate instruments for plugging, cleaning, and cauterizing teeth.	....do	1,200	....do	.50
	Bleeding-lancets	....do	600	....do	.25
	Trusses:				
	Covered with any kind of skin, cloth, or rubber:				
	Single	....do	1,200	....do	.50
	Double	....do	2,000	....do	.84
	Electro-magnetic:				
	Single	....do	8,000	....do	3.36
	Double	....do	15,000	....do	6.30
	Lancets:				
	With handles of wood, bone, &c	....do	500	....do	.21
	With handles of ivory, tortoise-shell	....do	1,000	....do	.42
	Laryngoscopes, pharyngoscopes, opthalmoscopes, and the like.	....do	2,000	....do	.84
	Files for dentists' use	Kilo	2,400	Pound	4.56
	Lithotomes	Each	1,500	Each	.63
	Vulcanite machines for dentists' use	....do	2,000	....do	.84
	Nursing-bottles:				
	Complete	Dozen	2,000	Dozen	.84
	Only the bottle	....do	600	....do	.25
	The nipple complete with capsules and tubes without the bottles.	....do	600	....do	.25
	The nipples alone	....do	240	....do	.10
	Figures for studying anatomy	Each	2,000	Each	.84
	Hammers for purposes of autopsy or for dentists' use.	Dozen	3,000	Dozen.....	1.26
	Masses, for plugging teeth	Kilo.....	5,000	Pound	.95

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
44	Medical instruments—Continued.				
	Elastic stockings for swellings:		*Reis.*		
	Woolen or cotton	Dozen	2,400	Dozen	$1.00
	Silk	do	4,800	do	2.01
	Crutches:				
	Simple	Pair	1,000	Pair	.42
	With spring	do	2,000	do	.84
	Artificial eyes, of glasses or of porcelain	Each	600	Each	.25
	Pincers:				
	Simple	Dozen	1,000	Dozen	.42
	Made like scissors	do	1,800	do	.75
	Twisted, with ends crossed, and the like	do	3,000	do	1.26
	Silver	do	5,000	do	2.10
	Pulverizers, etherizers, and chloroform apparatus.	Each	1,200	Each	.50
	Scarifiers, of any kind	do	400	do	.16
	Syringes:				
	Rubber	Kilo	1,000	Pound	.19
	Pewter	do	150	do	.03
	Yellow metal	do	1,200	do	.23
	Bone, horn, wood, or glass	do	600	do	.11
	With a spring	Each	600	Each	.25
	Saws	do	500	do	.21
	Specula:				
	Small, for nose, eyes, and ears	Each	200	Each	.08
	Large, for other uses	do	600	do	.25
	Stethoscopes	do	300	do	.12
	Suspensories:				
	Cotton or linen	Dozen	400	Dozen	.16
	Silk	do	1,500	do	.63
	Splints, for fractured limbs	do	600	do	.25
	Surgical scissors and tenacula	do	2,400	do	1.00
	Breast-pumps, of any kind	do	2,400	do	1.00
	Torniquets	Each	400	Each	.16
	Urethrotomes	do	1,500	do	.63
	Cupping-glasses of any kind,	Dozen	600	Dozen	.25
	Not specified, and separate pieces:				
	Steel or iron, polished or unpolished	Kilo	4,000	Pound	.76
	Silver	Gram	005	Gram	.002
	Glass or porcelain	Kilo	1,600	Pound	.30
	Rubber, wood, buffalo, or ordinary horn, and the like.	do	1,000	do	.19
	Machines or apparatus, 10 per cent ad valorem.				
45	Naval stores:				
	Rosin	Kilo	005	Pound	.00095
	Tar and pitch	do	010	do	.002
	Turpentine, of any kind	do	050	do	.00965
46	Oil-cake and meal	do	500	do	.095
47	Oils, animal, mineral, and vegetable:				
	Fixed liquid or concrete:				
	Of sweet or bitter almonds and of sesame	do	320	do	.06
	Of croton tiglium	do	3,000	do	.57
	Of cod-liver or ray	do	400	do	.08
	Ethereal	do	5,000	do	.95
	Of cotton-seed:				
	Impure or colored	do	040	do	.008
	Purified or uncolored, boiled	do	180	do	.034
		do	080	do	.015
	Nutmeg or nutmeg butter	do	2,000	do	.38
	Castor-oil or palma Christi oil:				
	Cooked	do	100	do	.02
	Expressed	do	320	do	.06
	Not specified (medicinal)	do	600	do	.11
	Empyreumatic or pyroligneous:				
	Of juniper	do	300	do	.057
	Of naphtha	do	060	do	.011
	Petroleum:				
	Prepared for illumination (kerosene and gasoline).	do	060	do	.011
	Dark or black and residua of the distillation of petroleum.	do	050	do	.0095
	Not specified	do	060	do	.011
	Volatile or essential:				
	Rosemary	do	1,000	do	.19
	Lavender	do	1,500	do	.285
	Orange blossoms	do	10,000	do	1.90
	Mustard	do	10,000	do	1.90

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
47	Oils, vegetable—Continued.				
	Volatile or essential—Continued.				
	Rose	Kilo	20,000	Pound	$3.80
	Not specified	do	4,000	do	.76
48	Paraffine and wax:				
	Paraffine, simple or compound:				
	In mass	do	250	do	.047
	In candles	do	400	do	.08
	Wax:				
	Vegetable of any kind	do	200	do	.038
	For melting, impure, native or in the rough	do	200	do	.038
	Prepared in bowls or sticks, purified or clean, in clots, white or yellow.	do	500	do	.095
	In candles, plain or polished	do	700	do	.13
	Manufactures, not classified	do	1,200	do	.23
49	Paints:				
	Prepared with oil, and the like:				
	For house painting	do	060	do	.011
	Fine, in tubes or cylinders, and the like	do	1,200	do	.23
	Coloring materials, not specified	do	1,600	do	.30
50	Paper and manufactures:				
	Encarmined	do	2,000	do	.38
	Shagreened, of any quality	do	060	do	.011
	For writing or drawing:				
	Plain	do	140	do	.026
	Gilt, colored, stamped with monogram, &c.	do	300	do	.057
	For printing purposes	do	020	do	.004
	For binding purposes	do	150	do	.028
	Gilded, silvered, or their imitation	do	500	do	.095
	Prepared for photographic use	do	800	do	.15
	For blotting	do	100	do	.02
	Wrapping paper without printed matter	do	050	do	.0095
	Wrapping paper with printed matter	do	150	do	.02
	White or colored paper, satin finished or not, for manufactures of prints.	do	050	do	.0095
	Lined with cloth	do	120	do	.023
	Silk, white or colored, for copying letters	do	200	do	.038
	Oiled, carbonized, oriental, of Chinese rice, &c.	do	200	do	.038
	For cigarettes and the like:				
	In sheets	do	150	do	.0095
	In little books	do	400	do	.08
	Wall-paper:				
	Painted or stamped	do	800	do	.15
	Painted, or stamped with gilding or silver-platings, or velvet-finished.	do	1,200	do	.23
	In pasteboard cap-brims, lined with linen or cotton.	do	300	do	.057
	In shirt collars	Dozen	240	Dozen	.10
	In shirt cuffs	Doz. pair.	500	Doz. pair.	.21
	Shirt fronts	Dozen	360	Dozen	.15
	In hat linings, silk-woven	Kilo	250	Pound	.047
	In bags or coverings without lettering	do	100	do	.02
	In bags or coverings with lettering	do	300	do	.057
	Envelopes	do	300	do	.057
	In strips or galloons:				
	For telegraphy	do	100	do	.02
	Of any other kind	do	1,200	do	.23
	In lanterns	do	600	do	.11
	Prepared for confectioneries and the like	do	1,200	do	.23
52	Provisions:				
	Meats, fresh and salt:				
	Beef and mutton:				
	Green or preserved by refrigeration or other process.	do	020	do	.004
	Dry	do	020	do	.004
	Of any kind, salted or smoked	do	040	do	.008
	Hams, prepared in any way	do	250	do	.047
	Canned, of any preparation not medical	do	300	do	.057
	Sausages	do	500	do	.095
	Extracts	do	1,200	do	.23
	Lard	do	120	do	.023
	Butter	do	350	do	.066
	Cheese	do	300	do	.057
53	Quicksilver	do	300	do	.057
54	Seeds:				
	Flax	do	060	do	.011
	Melon:				
	With hull	do	120	do	.023
	Without hull	do	600	do	.11

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
54	Seeds—Continued.				
	Mustard	Kilo	100	Pound	$0.02
	For gardening or agriculture		Free.		
	Not specified	do	300	do	.057
55	Soap:				
	Without perfume:				
	Dark or black	do	030	do	.0057
	Yellow	do	070	do	.013
	White	do	150	do	.0285
	Perfumed	do	600	do	.11
	Medicinal of any kind	do	600	do	.11
56	Spirits:				
	Absinthe, eucalypsinthe, and kirsch	Liter	900	Liter	.37
	Alcohol, brandy, cognac, rum, whisky, aguardiente of cane, of Jamaica, of France, of the Rhine, and of any other kind	do	600	do	.25
	Gin	do	220	do	.09
	NOTE.—The rates given above include only liquors imported in casks. When they come in demijohns they pay 25 per cent., and in jars, flasks, bottles, or any other vessel of earthenware, chinaware, or glass, 50 per cent. more than the duties above set forth, there being included in this the duties on the respective vessels. Duties on alcoholic liquids are collected according to the real force of the pure alcohol, ascertained by the alcoholmeter and instructions of Gay Lussac. The above taxes refer, therefore, to 10° at a temperature of 15° C.				
57	Starch:				
	Of potatoes	Kilo	3,000	Pound	.57
	Not classified	do	700	do	.18
58	Sugar:				
	Milk	do	600	do	.11
	Of grape	do	060	do	.011
	Any other kind	do	130	do	.024
59	Tin:				
	In sheets	do	050	do	.0095
	Manufactures, not classified:				
	Simple or plain	do	300	do	.057
	Painted or varnished, with or without ornaments of copper, brass, zinc, or other common metal	do	600	do	.11
60	Tobacco, leaf, cigars, cigarettes:				
	In cigars	Hundred	3,000	Hundred	1.26
	In cigarettes	Kilo	2,000	Pound	.38
	In sheets of any kind	do	300	do	.057
	For chewing	do	600	do	.11
	Prepared for pipes or cigarettes	do	800	do	.15
	As snuff	do	1,800	do	.34
	Prepared in any other manner	do	3,000	do	.68
	NOTE.—On tobacco there is a special duty of 40 per cent. in addition to those given above, and to the regular additional tax of 60 per cent.				
61	Vegetables:				
	Dry or fresh, salted or in brine	do	040	do	.008
	Canned in any way, with or without mixture of any fruit	do	200	do	.038
62	Wood and manufactures:				
	Bark or trunk of the cork-tree	Kilo	010	Pounds	.002
	Stocks:				
	Of oak:				
	Up to 10 centimeters thick:				
	Up to 10 meters in length	Meter	400	Meter	.16
	More than 10 meters in length	do	600	do	.25
	More than 10 to 20 centimeters thick:				
	Up to 10 meters in length	do	800	do	.33
	More than 10 meters in length	do	1,000	do	.42
	More than 20 and up to 40 centimeters thick:				
	Up to 10 meters in length	do	1,400	do	.58
	More than 10 meters in length	do	2,400	do	1.00
	More than 40 and up to 60 centimeters thick:				
	Up to 10 meters in length	do	3,600	do	1.51
	More than 10 meters in length	do	4,800	do	2.01
	More than 60 centimeters thick:				
	Up to 10 meters in length	do	7,200	do	3.02
	More than 10 meters in length	do	8,400	do	3.53

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
62	Wood and manufactures—Continued.				
	Stocks—Continued,				
	Of pine or any other wood not classified:				
	Up to 10 centimeters thick:		*Reis.*		
	Up to 10 meters long	Meter	200	Meter	$0.06
	More than 10 meters in length	do	300	do	.12
	More than 10 centimeters and up to 20 thick:				
	Up to 10 meters in length	do	400	do	.16
	More than 10 meters in length	do	500	do	.21
	More than 20 centimeters and up to 40 centimeters thick:				
	Up to 10 meters in length	do	700	do	.29
	More than 10 meters in length	do	1,200	do	.50
	More than 40 and up to 60 centimeters thick:				
	Up to 10 meters in length	do	1,800	do	.75
	More than 10 meters in length	do	2.400	do	1.00
	More than 60 centimeters thick:				
	Up to 10 meters in length	do	3,600	do	1.51
	More than 10 meters in length	do	4,000	do	1.68
	Planks or logs:				
	Of mahogany, satinwood, and other materials suitable for joining:				
	In planks or logs	Kilo	060	Pounds	.011
	In thin sheets	do	200	do	.038
	Of oak and teak (*teca*):	Cu. meter.	1,600	Cu. meter.	.67
	Of pine or any other material not classified.	do	1,600	do	.67
	Staves	Kilo	020	Pounds	.004
	Needles for tricot and the like	do	1,200	do	.23
	Needle-cases	do	1,200	do	.23
	Shelves and mantels:				
	Of ordinary wood:				
	To 1.50 meters in length	Each	7,000	Each	2.94
	More than 1.50 meters in length	do	12.000	do	5.04
	Of fine wood:				
	To 1.50 meters in length	do	14,000	do	5.88
	More than 1.50 meters in length	do	24,000	do	10.08
	Arches or hoops:				
	For masts	Dozen	540	Dozen	.22
	For tunnels, pipes, or barrels	Hnndred	600	Hundred	.25
	Saddle-trees	Each	600	Each	.25
	Bagatelle tables:				
	Of ordinary wood	do	11,000	do	4.62
	Of fine wood	do	25,000	do	10.50
	Trunks, boxes:				
	Of planed pine:				
	Not set up	Kilo	020	Pounds	.004
	Set up:				
	To 80 centimeters long	Each	500	Each	.21
	More than 80 centimeters long	do	1,000	do	.42
	Of common wood, painted or lined with oil-cloth:				
	Up to 60 centimeters long	do	1,500	do	.63
	From 60 to 80 centimeters long	do	3,000	do	1.26
	More than 80 centimeters long	do	6,000	do	2.52
	Covered with leather or zinc:				
	Up to 60 centimeters long	do	3,000	do	1.26
	More than 60 and up to 80 centimeters long.	do	5,000	do	2.10
	More than 80 centimeters long	do	9,000	do	3.78
	Of camphor, sandal, or any fine wood:				
	Up to 60 centimeters long	do	3,000	do	1.26
	More than 60 and up to 80 centimeters long.	do	6,000	do	2.52
	More than 80 centimeters long	do	9,000	do	3.78
	NOTE.—Trunks with coverings, of cloth, skin, cotton, woolen or linen goods pay 20 per cent. more of respective duties.				
	Buckets and tubs, with or without copper or iron hoops.	Kilo	120	Pounds	.023
	Benches, stools, and low chairs:				
	Small, of any kind, for the feet	Each	300	Each	.12
	Shutting or opening, with seat of any kind	do	500	do	.21

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
62	Wood and manufactures—Continued.				
	Benches, stools, and low chairs—Continued.				
	With seat of straw or cane for pianos and the like:				
	Of common wood	Each	1,800	Each	$0.75
	Of fine wood	....do	3,600	....do	1.51
	Rustic	....do	1,000	....do	.42
	Waiters and dippers;				
	Simple, painted, or varnished	Kilo	1,000	Pounds	.19
	Japanned, with or without ornaments of mother-of-pearl.	....do	3,600		
	Barrels and kegs:				
	Entire, empty or set up	Each	500	Each	.21
	Not set up	Kilo	020	Pounds	.004
	Water-tanks for ships:				
	Of common wood	....do	500	....do	.095
	Of fine wood	....do	1,000	....do	.19
	Bungs for pipes and barrels	....do	120	....do	.023
	Walking-sticks:				
	With head of bone, horn, wood, or common metal.	Dozen	2,400	Dozen	1.00
	With handle of ivory, tortoise-shell, or mother-of-pearl.	....do	7,200	....do	3.02
	With handle of gold or silver, or ornaments of same or of precious stones, 30 per cent. ad valorem.				
	Cradles:				
	Of ordinary wood	Each	4,000	Each	1.68
	Of fine wood	....do	10,000	....do	4.20
	Billiard-tables:				
	Of ordinary wood	....do	60,000	....do	25.20
	Of fine wood	....do	100,000	....do	42.00
	Screens:				
	Covered with paper or cloth	....do	10,000	....do	4.20
	Entirely of wood	....do	30,000	....do	12.60
	Boxes:				
	Of box-wood, for snuff and the like	Kilo	800	Pounds	.15
	Of beech or pine:				
	Small, for wafers, druggists' use, and the like.	...do	800	....do	.15
	Large, in sets or separate	...do	500	....do	.095
	Balls:				
	Small, for billiards, etc	....do	1,000	....do	.19
	Large, for nine-pins	....do	200	....do	.038
	Buttons	....do	400	....do	.08
	Racks:				
	Large, for clothes and the like:				
	Of common wood	Each	2,400	Each	1.00
	Of fine wood	....do	5,000	....do	2.10
	Small, for towels and the like:				
	Of ordinary wood	Kilo	400	Pounds	.08
	Of fine wood	....do	1,000	....do	.19
	Handles:				
	For sticks, umbrellas, and small instruments and tools.	....do	300	....do	.057
	For pens and crochet	....do	600	....do	.11
	For other uses, 30 per cent. ad valorem.				
	Chairs:				
	Of ordinary wood:				
	With wooden seat:				
	With arms	Each	600	Each	.25
	Without arms	....do	300	....do	.13
	With seats of straw or cane:				
	With arms	....do	2,400	....do	1.00
	Without arms	....do	1,200	....do	.50
	Rocking or opening and shutting:				
	With arms	....do	3,000	....do	1.26
	Without arms	....do	2,000	....do	.84
	For children	....do	900	....do	.37
	Of fine wood:				
	With straw or cane seat:				
	With arms	....do	5,000	....do	2.10
	Without arms	....do	2,600	....do	1.09
	Rocking or opening and shutting:				
	With arms	....do	8,000	... do	3.36
	Without arms	....do	4,000	....do	1.68
	For children	....do	1,800	....do	.75

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
62	Wood and manufactures—Continued.				
	Chairs—Continued.		*Reis.*		
	Rustic, of pine and the like, for gardens, opening and shutting.	Each.....	2 00	Each	$0.03
	Rustic, of limbs of trees, with or without bark.	....do	260	....do	.15
	Not specified:				
	Of common wood, 30 per cent. ad valorem.				
	Of fine wood, 20 per cent. ad valorem.				
	Beds:				
	Of common wood:				
	For one person.....	....do	8,000	....do	3.36
	For two persons.....	....do	12,000	....do	5.04
	For a child.....	....do	4,000	....do	1.68
	Of fine wood:				
	For one person	....do	20,000	....do	8.40
	For two persons	....do	30,000	....do	12.60
	For a child.....	....do	10,000	....do	4.20
	Hats of fine splits:				
	Ornamental	....do	500	....do	.21
	Unornamental	....do	300	....do	.12
	Spoons, knives, forks, and the like, for salad, mustard, &c.:				
	Of common wood.....	Kilo	1,500	Pounds ...	.295
	Of fine wood	....do	5,000	....do	.95
	Bureaus:				
	Of common wood:				
	With 3 large drawers.....	Each	5,000	Each	2.10
	With more than 3 drawers	....do	8,000	....do	3.36
	With secretary.....	....do	12,000	....do	5.04
	Of fine wood:				
	With 3 large drawers.....	....do	12,000	....do	5.04
	With more than 3 drawers	....do	20,000	....do	8.40
	With secretary.....	....do	30,000	....do	12.60
	Consoles:				
	Of common wood:				
	Up to 80 centimeters long.....	....do	3,500	....do	1.47
	More than 80 and up to 150.....	....do	9,000	....do	3.78
	More than 150.....	....do	14,000	....do	5.88
	Of fine wood:				
	Up to 80 centimeters long.....	....do	10,000	....do	4.20
	More than 80 and up to 150	....do	14,000	....do	5.88
	More than 150	....do	25,000	....do	10.50
	Bed-heads:				
	Of common wood.....	....do	3,000	....do	1.26
	Of fine wood	....do	5,000	....do	2.10
	Boot-jacks.....	....do	500	....do	.21
	Lasts.....	Kilo	400	....do	.08
	Cruet-stands:				
	Of common wood.....	....do	1,200	....do	.23
	Of fine wood	....do	3,000	....do	.57
	Trays, bowls, bath-tubs, &c.....	....do	120	Pounds ...	.023
	Cupboards and wardrobes:				
	Of common wood.....	Each	18,000	Each	7.56
	Of fine wood	....do	30,000	....do	12.60
	Washstands:				
	Of common wood:				
	Round	....do	1,800	....do	.75
	With table, with or without drawers:				
	Up to 80 centimeters long	....do	2,400	....do	1.00
	More than 80 centimeters long.....	....do	5,500	....do	2.31
	With divisions	....do	9,200	....do	3.86
	Of fine wood:				
	Round	....do	4,000	....do	1.68
	With table, with or without drawers:				
	Up to 80 centimeters long	....do	6,000	....do	2.52
	More than 80 centimeters long	....do	12,000	....do	5.04
	With divisions	....do	20,000	....do	8.40
	Fans:				
	Common wood, simple or varnished, gilded, or silvered, or opened.	....do	500	....do	.21
	Sandal-wood, japanned, or the like	....do	1,500	....do	.63
	Measures of any kind, not classified.....	Kilo	180	....do	.094
	Tables:				
	Ordinary wood:				
	For center tables.....	Each	5,000	....do	2.10
	For tea, sewing, writing, playing, dumb-waiters, and the like.	... do	4,000	....do	1.68

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
			Reis.		
62	Wood and manufactures—Continued.				
	Tables—Continued.				
	Ordinary wood—Continued.				
	Dining-tables:				
	Up to 6 meters long	Each	10,000	Each	$4.20
	More than 6 meters long	do	20,000	do	8.40
	Fine wood:				
	As center-tables	do	20,000	do	8.40
	For tea, sewing, writing, playing, dumb-waiters, and the like.	do	8,000	do	3.36
	Dining tables:				
	Up to 6 meters long	do	18,000	do	7.56
	More than 6 meters long	do	36,000	do	15.12
	Rustic, with bark and the like	do	1,500	do	.63
	Mouldings, set up or not, including cords, &c.:				
	Simple or with plaster of paris apparatus	Kilo	300	Pounds	.057
	Painted, varnished, or gilt in part	do	500	do	.095
	Entirely gilt	do	600	do	.11
	Tooth-picks	do	300	do	.057
	Pedestals and brackets, music racks, &c:				
	Simple, painted, or varnished	Each	500	Each	.21
	Gilt or imitations thereof	Kilo	800	Pounds	.15
	Combs of any kind	do	1,400	do	.266
	Hogsheads and other large barrels:				
	Whole, empty or set up	Each	1,200	Each	.50
	Not set up	Kilo	200	Pounds	.038
	Bracelets of sandal-wood and the like, inlaid or not.	do	600	do	.11
	Rulers	do	1,500	do	.285
	Oars	Meter	100	Meter	.04
	Seats for water-closets:				
	Common wood:				
	Simple or with back	Each	2,500	Each	1.05
	With pump	do	4,000	do	1.68
	Fine wood:				
	Simple or with back	do	5,000	do	2.10
	With pump	do	8,000	do	3.36
	Secretaries:				
	Common wood:				
	Small, for ladies, simple or with shelves	do	10,000	do	4.20
	Large, for men, simple or with shelves	do	14,000	do	5.88
	Same, *bureau ministre*	do	20,000	do	8.40
	Fine wood:				
	Small, for ladies, simple or with shelves	do	15,090	do	6.30
	Large, for men, idem, idem	do	30,000	do	12.60
	Same, *bureau ministre*	do	50,000	do	21.00
	Sofas:				
	Common wood:				
	Small, with or without backs and the like.	do	7,000	do	2.94
	Large, with or without backs	do	11,000	do	4.62
	Fine wood:				
	Small, with or without backs and the like.	do	12,000	do	5.04
	Large, with or without backs	do	20,000	do	8.40
	Bed sofas or sofa beds, of common wood	do	6,000	do	2.52
	Rustic	do	1,500	do	.63
	Cues for billiards or bagatelle	do	300	do	.12
	Lathes	Kilo	200	Pounds	.038
	Toilet stands:				
	Common wood:				
	To be placed on a table	Each	2,000	Each	.84
	In the shape of a table or with a table	do	10,000	do	4.20
	With chest of drawers, &c	do	16,000	do	6.72
	Fine wood:				
	To be placed on a table	do	4,000	do	1.68
	As a table, with a table, or with or without drawers.	do	18,000	do	7.56
	With chest of drawers and the like	do	28,000	do	11.76
	Shades for windows	do	1,000	do	.42
	Blinds	do	4,000	do	1.68
	Manufactures not classified:				
	Engraved in half relief, for furniture	Kilo	3,000	Pounds	.57
	Furniture:				
	Common wood, 30 per cent. ad valorem.				
	Fine wood, 40 per cent. ad valorem.				
	Pieces for the construction of houses, 10 per cent. ad valorem.				
	All others, 30 per cent. ad valorem.				

Customs duties collected on various articles at the port of Rio de Janeiro—Continued.

Number.	Tariff classification.	Unit.	Duty in Brazilian currency.	Unit.	Equivalent in United States money.
63	Wool:		*Reis.*		
	In the rough, carded, tinted, or prepared in any manner.	Kilo	060	Pounds ...	$0.011
	In thread:				
	Simple for weaving	....do	150	....do	.0285
	For silk throwing	....do	900	....do	.17
	Loose for embroidery	....do	1,000	....do	.19
64	Zinc:				
	In bars or tongues, in pieces or fragments, or in any other shape, in bulk.	....do	040	....do	.008
	In sheets, simple, prepared or stamped, for covering houses, &c., in rolls.	....do	070	....do	.013
	As nails, tacks, &c	....do	150	....do	.0285
	In manufactures not classified:				
	Simple	....do	500	....do	.095
	Silver-plated or bronzed, entirely or in part.	....do	1,000	....do	.19
	Gilt, entirely or in part	....do	1,500	....do	.285

BRITISH GUIANA.

The full tariff of British Guiana was printed in Consular Reports No. 62½, p. 563.

CHILI.

Statement of the customs duties collected under the tariff laws of Chili on the following-named articles.

[Prepared by Consul Dunn.]

Number.	Tariff classification.	Fixed appraisement.		Per cent.
		Units.	Duty.	
1	Agricultural implements:			
	Machinery, gross	Kilo	$0 20	15
	Plows, gross	....do	18	15
	Spades and shovels, gross	....do	40	15
	Forks:			
	3 teeth	Dozen	7 00	15
	4 teeth	....do	8 00	15
	5 teeth	....do	12 00	15
	6 teeth	....do	15 00	15
2	Animals, live			Free.
3	Art works:			
	Pictures, on valuation			35
	Statues, on valuation			35
4	Bark and extracts, medicinal, gross	Kilo	30	25
5	Blacking:			
	In tins, gross	....do	18	25
	In bottles, gross	....do	10	25
6	Bones, hoofs and horns (exports)			
7	Books, maps and engravings:			
	Printed books			Free.
	Printed books, with engravings			35
	Account books:			
	Common	Kilo	50	35
	Medium	....do	1 00	35
	Fine	....do	1 50	35
	Maps and engravings, on valuation			35
8	Brass and manufactures of:			
	Sheet	Kilo	1 25	25
	Builders' fittings	....do	1 15	25
	Builders' fittings	....do	1 75	25
	Carriage furniture	....do	1 25	25
	Candlesticks, common	....do	1 20	25
	Screws	....do	1 10	25
9	Breadstuffs:			
	Barley			Free.
	Biscuits:			
	Ship	Quintal	6 50	35
	Cabin:			
	Upwards of 8 centimeters in diameter	....do	8 70	35
	Under 8 centimeters in diameter	Kilo	35	35
	Sweet	....do	60	35
	Indian corn, oats, rye, wheat and flour			Free.
10	Bricks:			
	Fire	Hundred	3 00	15
	For building purposes	....do	1 25	25
11	Brooms and brushes:			
	Brooms, common:			
	With or without handles	Dozen	2 50	35
	For ships	....do	75	35
	Shoe brushes:			
	Without handles	....do	60	25
	With handles, common	....do	1 00	25
	With handles, fine	....do	1 50	25
	Clothes brushes:			
	Common	....do	3 00	25
	Medium	....do	4 50	25
	Fine, on valuation			25
	Tooth brushes, gross	Gross	10 00	25
	Nail brushes, gross	....do	24 00	25
12	Candles:			
	Tallow	Kilo	30	25
	Stearine	....do	50	35
	Sperm	....do	1 00	35

Statement of the customs duties collected under the tariff laws of Chili, &c.—Continued.

Number.	Tariff classification.	Fixed appraisement.		Per cent.
		Units.	Duty.	
13	Carriages and horse-cars, on valuation			35
14	Cars (railroad, steam) on valuation			35
15	Chemicals:			
	Carbolic acid:			
	Crystallized, gross	Kilo	$0 80	25
	Disinfectant liquid or in powder, gross	do	25	25
	Muriatic acid in carboys, gross	do	07	25
	Nitric acid in carboys, gross	do	12	25
	Sulphuric acid in carboys, gross	do	06	25
	Caustic soda	do	11	25
16	Clocks and watches:			
	Gent's English gold:			
	Thin cover	Each	70 00	15
	Medium cover	do	90 00	15
	Thick cover	do	120 00	15
	Gent's American, French, or Swiss:			
	Gold, thin cover	do	25 00	15
	Medium cover	do	50 00	15
	Thick cover	do	85 00	15
	Ladies' English gold:			
	Thin cover, without brilliants	do	40 00	15
	Medium cover, without brilliants	do	60 00	15
	Thick cover, without brilliants	do	75 00	15
	Ladies' American, French, or Swiss gold:			
	Thin cover, without brilliants	do	20 00	15
	Medium cover, without brilliants	do	30 00	15
	Thick cover, without brilliants	do	45 00	15
	Gold chronometers, half cover, and repeaters	do	130 00	15
	Gold superfine jeweled covers, on valuation			15
	English silver:			
	Common	Each	10 00	15
	Medium	do	14 00	15
	Fine	do	20 00	15
	American, French, or Swiss silver:			
	Common	do	5 00	15
	Medium	do	8 00	15
	Fine	do	12 00	15
	Nickel	do	2 00	15
	Nickel, gilt or plated covers	do	3 00	15
	Clocks, on valuation			35
17	Coal			Free.
18	Copper:			
	Ore, bar, and ingot			Do.
	Sheathing			Do.
	Sheet	Kilo	60	25
19	Cotton:			
	Sheetings, shirtings, prints, drills, denims, classification			25
	Osnaburgs, classification			15
20	Earthenware, stone and china ware:			
	Earthenware:			
	Common, gross	Kilo	12	25
	Fine, gross	do	25	25
	Stone bottles, gross	do	08	15
	Chinaware:			
	Common, gross	do	12	35
	Fine, gross	do	$0 18 to 40	35
	Superfine, on valuation			35
21	Fertilisers, not in tariff, not used			
22	Fish:			
	Large fish, dried, smoked, or salted, gross	Kilo	12	35
	Salmon:			
	Dried, smoked, or salted, gross	do	17	35
	Tinned, gross	do	25	35
	Small fish:			
	Dried, smoked, or salted, net	do	17	35
	Tinned, net	do	22	35
23	Flax, hemp, and jute:			
	Britannias	do	4 00	35
	Canvas	do	60 to 70	15 and 25
	Drills	do	90 to 1 35	25
	Sheeting	do	4 00	35
	Ticking	do	80 to 1 20	25
	Bagging	do	35	15
	Cordage, upwards of 21 millimeters in circumference	do	20	25
24	Fruits, preserves, gross	do	30	35
25	Furs, on valuation			35
26	Glass:			
	Bottles, common, gross	Kilo	04	15
	Demijohns, up to 19 liters capacity	Each	30	25

Statement of the customs duties collected under the tariff laws of Chili, &c.—Continued.

Number.	Tariff classification.	Fixed appraisement.		Per cent.
		Units.	Duty.	
26	Glass—Continued.			
	Globes for lamps	Kilo	$0 20 and 25	25
	Phials	do	14c. to 1 00	25
	Tumblers and wine glasses:			
	Common	do	10 to 20	25
	Medium	do	25 to 70	25 and 35
	Fine, on valuation			35
	Window-glass:			
	Common, not colored, up to 4 millimeters in thickness, gross.	Kilo	06	25
	Beyond that thickness, on valuation			25
27	Glucose, solid or liquid, gross	Kilo	12	25
28	Glue, gross	do	25	25
29	Powder:			
	Mining	do	20	15
	Sporting:			
	In flasks	do	80	35
	In kegs	do	50	35
30	Hair:			
	Human:			
	Not exceeding 50 centimeters in length	do	12 00	35
	Exceeding 50 centimeters in length	do	20 00	35
	Long or short, prepared, on valuation			35
	Animal			Free.
31	Hay			Free.
32	Hides and skins:			
	Ox and cow hides, dry or salted			Free.
	Goat-skins	Dozen	4 00	25
	Seal:			
	One hair	do	7 00	25
	Two hairs	do	12 00	25
	Otter	Each	10 00	35
	Wash-leather	Kilo	3 00	25
	Sheep-skins	Dozen	3 00	25
	Hog-skins	Kilo	2 00	25
	Sole	Each	4 00	25
	Patent leather	Kilo	3 00	25
	Morocco	do	2 50 and 5 00	25
33	Honey	do	08	25
34	Hops:			
	In metal or wood, gross	do	50	25
	In sacking, gross	do	65	25
35	Ice. (Municipal monopoly.)			
36	India-rubber manufactures, tubing, packing, sheet, gross	do	1 0	25
37	Iron and steel:		0	
	Manufactures:			
	Pig and bar iron			Free.
	Sheet:			
	Painted	Kilo	09	25
	Not painted nor galvanized	do	09	15
	Galvanized	do	12	25
	Wrought, or cast:			
	Painted or tinned	do	80	25
	Enameled	do	60	25
38	Jewelry:			
	False, on valuation			35
	Gold and silver, on valuation			15
	Precious stones, on valuation			04
39	Lamps, on valuation			35
40	Lead:			
	Pig and sheet			Free.
	Black lead	Kilo	16	25
	Leaf	do	1 25	25
41	Leather:			
	Manufactures:			
	Men's boots and shoes:			
	Common	Dozen	48 00	35
	Patent leather	do	72 00	35
	Sailors' boots	do	30 00	35
	Women's boots and shoes	do	16 to 52 00	35
	Children's boots and shoes	do	10 to 36 00	35
42	Lime and cement, Roman, gross	Kilo	02	15
43	Malt liquors:			
	Bottled, specific duty	Dozen		1.25
	In bulk, specific duty	Liter		0.12
44	Medical instruments			Free.
44a	Musical instruments:			
	Wind and string			35
	Musical boxes			35

Statement of the customs duties collected under the tariff laws of Chili, &c.—Continued.

Number.	Tariff classification.	Fixed appraisement.		Per cent.
		Units.	Duty.	
44a	Musical instruments—Continued.			
	Harmoniums		$35 to $225 00	
	Pianos:			
	Grand:			
	Up to 190 centimeters in length	Each	350 00	35
	Above 190 centimeters in length	....do	600 00	35
	Cottage:			
	Up to 155 centimeters in height	....do	225 00	35
	Above 155 centimeters in height	....do	400 00	35
	Other shapes, on valuation			35
45	Naval stores:			
	Rosin			Free.
	Tar			Free.
	Turpentine	Liter	20	25
	Pitch			Free.
46	Oil cake and meal, linseed for medicinal purposes	Kilo	10	25
47	Oils:			
	Whale:			
	Raw	....do	13	25
	Refined	....do	22	25
	Sperm:			
	Raw	....do	24	25
	Refined	....do	42	25
	Cocoa and palm	....do	18	25
	Linseed, rape, and pine	....do	20	25
	Lard and neatsfoot	....do	20	25
	Olive	....do	25	25
	Naphtha, paraffine, petroleum, and kerosene	....do	08	25
48	Paraffine and wax:			
	Paraffine	....do	08	25
	Wax, vegetable or mineral, gross	....do	30	25
49	Paints:			
	White and red lead	....do	15	25
	Ochre	....do	04	25
	Common, prepared in oil, in tins, gross	....do	13	25
50	Paper:			
	Wrapping, gross	....do	14	35
	Marbled, gross	....do	30	35
	Music, gross	....do	40	25
	Blotting, gross	....do	40	25
	News			Free.
	Foolscap, gross	....do	40	25
	Letter, gross	....do	50	25
	Telegraph strips			Free.
	Hangings	Roll	12c. to 2 50	25 and 35
51	Plated ware:			
	Tea and coffee services, 4 pieces		12 to 20 00	35
	Tea and coffee services, fine, on valuation			35
	Plated spoons	Dozen	1 to 5 00	35
	Plated forks	....do	8 to 5 00	
	Cruets	Each	1.50 to 8 00	
52	Provisions:			
	Meat:			
	Fresh	Kilo		Free.
	Salted, beef or pork, gross	....do	12	25
	Oleomargarine, not in tariff.			
	Lard:			
	In tins, gross	....do	30	25
	In kegs, gross	....do	22	25
	Butter, not in tariff.			
	Cheese, gross	....do	40	35
53	Quicksilver			Free.
54	Seeds (not medecinal)			Free.
55	Soap, washing, gross	Kilo	12	25
56	Spirits:			
	Bottled, specific duty	Dozen		4.00
	In bulk, specific duty	Liter		0.42
57	Starch, gross	Kilo	12	25
58	Sugar:			
	First classification.—Refined, whole, broken, or crushed, moist or dry.	Quintal	23 00	35
	Second classification.—White, like "Rosa Emelia," ground or coarse, moist or dry, 80.434 per cent.	....do	18 50	35
	Third classification.—Granulated, first product, moist or dry, 60.869 per cent.	....do	14 00	35
	Fourth classification.—Granulated, second product, moist or dry, 45.652 per cent.	....do	10 50	35
	Fifth classification.—No. 20, 19, 18, 17, Dutch chamber, moist or dry, 70.434 per cent.	....do	16 20	35

Statement of the customs duties collected under the tariff laws of Chili, &c.—Continued.

Number.	Tariff classification.	Fixed appraisement.		Per cent.
		Units.	Duty.	
58	Sugar—Continued.			
	Sixth classification.—No. 16, 15, 14, 13, Dutch chamber, moist or dry, 58.695 per cent.	Quintal...	$12 50	35
	Seventh classification.—No. 12, 11, 10, 9, Dutch chamber, moist or dry, 45.652 per cent.	....do	10 50	35
	Eighth classification.—No. 8 and following, same chamber, moist or dry, 37.826 per cent.	....do	8 70	35
	Molasses	Litre.....	08	25
59	Tin:			
	Block or sheet			Free.
	Leaf	Kilo	1 25	25
60	Tobacco:			
	Havana, leaf, or cut in any shape, specific duty	....do		1.50
	Any other kind, specific duty	....do		1.00
	Cigars, specific duty	....do		3.00
	Cigarettes:			
	Havana tobacco, specific duty	....do		1.50
	Any other tobacco, specific duty			1.00
61	Vegetables:			
	Dried, gross	Kilo	30	25
	In water, vinegar, or sauce:			
	Bottled, gross	....do	20	25
	In barrels, gross	....do	10	25
62	Wood:			
	Furniture, on valuation			35
	Buckets:			
	2 and 3 hoops	Dozen	3 00	25
	Oak, for ships' use	....do	5 00	25
	Pails, in sets of 3, sets	....do	16 00	25
63	Wool			Free.
64	Zinc:			
	Block			Free.
	Sheet	Kilo	16	15
	Manufactured into house piping	....do	26	25

METHOD OF CALCULATING DUTIES.

In addition to the percentage specified in the tariff, there is a surcharge of 40 per cent. on all goods. To make the method of calculating duties clear, the following example is given:

The duty on an article valued at $100, and subject to a duty of 35 per cent., would be	$35
The surcharge of 40 per cent	14
Total	49

It is not possible to give the equivalent in United States money, as the values are continually changing, owing to the variations in the rate of exchange on London and the uncertainty of the prospective action of Congress with respect to the paper currency and the surcharge on duties. The duties, although fixed in Chili silver currency, are paid in paper currency, owing to which the above-mentioned surcharge is made.

The full tariff of Chili was printed in Consular Reports No. 35, p. 151; the changes in No. 41, p. 407.

ECUADOR.

Tariff of Ecuador on the following products and manufactures of the United States.

[Prepared by Consul-General Owen McGarr.]

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
1	Agricultural implements	Kilo	$0.05	Pound	$0.017
2	Animals: Cattle, hogs, horses, mules, sheep, and all others.		Free		
3	Art works	Kilo	.12	Pound	.041
4	Bark and extracts	do	.25	do	.0852
5	Blacking	do	.25	do	.0852
6	Bones, hoofs, horns, &c	do	.25	do	.0852
7	Books		Free		
	Maps	Kilo	.25	Pound	.0852
	Engravings, &c	do	.25	do	.0852
8	Brass and manufactures of	do	.05	do	017
9	Breadstuffs:				
	Barley	do	.02	do	.0073
	Bread and biscuits	do	.25	do	.0852
	Indian corn		Free		
	Oats	Kilo	.05	Pound	.017
	Rye	do	.05	do	.017
	Wheat	do	.05	do	.017
	Flour	do	.05	do	.017
10	Bricks				
11	Brooms and brushes	Kilo	.25	Pound	.0852
12	Candles	do	.25	do	.0852
13	Carriages	do	.12	do	.041
	Horse-cars		Free		
14	Cars (railroad, steam)		Free		
15	Chemicals	Kilo	.25	Pound	.0852
16	Clocks and watches	do	.25	do	.0852
17	Coal		Free		
18	Copper, ore, ingots, bar, and sheet	Kilo	.05	Pound	.017
19	Cotton:				
	Raw	do	.05	do	.017
	Manufactures	do	.25	do	.0852
20	Earthen, stone, and china ware	do	.12	do	.041
21	Fertilizers		Free		
22	Fish	Kilo	.25	Pound	.0852
	Codfish	do	.05	do	.017
23	Flax, hemp, and jute	do	.25	do	.0852
	Manufactures	do	.25	do	.0852
24	Fruit:				
	Fresh		Free		
	Dried or preserved	Kilo	.05	Pound	.017
25	Furs	do	.25	do	.0852
26	Glass	do	.12	do	.041
	Bottles	do	.02	do	.0073
	All other manufactures	do	.12	do	.041
27	Glucose	do	.25	do	.0852
28	Glue	do	.25	do	.0852
29	Gunpowder, prohibited, except by Government				
30	Hair	Kilo	.25	Pound	.0852
31	Hay	do	.25	do	.0852
32	Hides and skins	do	.25	do	.0852
33	Honey	do	.25	do	.0852
34	Hops	do	.02	do	.0073
35	Ice	do	.25	do	.0852
36	India-rubber:				
	Manufactures	do	.25	do	.0852
	Hose for engines		Free		
37	Iron and steel	Kilo	.05	Pound	.017
	Manufactures	do	.05	do	.017
38	Jewelry	do	.50	do	.017
39	Lamps	do	.25	do	.0852

Tariff of Ecuador on the following products, &c.—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Duty.	Unit.	Duty.
40	Lead	Kilo	$0.05	Pound	$0.017
	Manufactures	do	.05	do	.017
41	Leather	do	.25	do	.0852
	Manufactures	do	.25	do	.0852
42	Lime	do	.02	do	.0073
	Cement	do	.05	do	.017
43	Malt liquors	do	.12	do	.041
44	Medical instruments	do	.25	do	.0852
45	Naval stores:				
	Rosin	do	.25	do	.0852
	Tar	do	.25	do	.0852
	Oakum	do	.05	do	.017
	Turpentine	do	.25	do	.0852
	Pitch	do	.02	do	.0073
	If for domestic steamers		Free		
46	Oil-cake and meal	Kilo	.12	Pound	.041
47	Oils, animal, mineral, and vegetable	do	.12	do	.041
48	Paraffine and wax	do	.25	do	.0852
49	Paints	do	.12	do	.041
	If for domestic steamers		Free		
50	Paper	Kilo	.05	Pound	.017
	Manufactures	do	.05	do	.017
51	Plated ware (jewelry)	do	.50	do	.17
52	Provisions	do	.05	do	.017
	Meats:				
	Fresh	do	.05	do	.017
	Salt	do	.05	do	.017
	Oleomargarine	do	.25	do	.0852
	Lard	do	.05	do	.017
	Butter	do	.05	do	.017
	Cheese	do	.05	do	.017
53	Quicksilver	do	.25	do	.0852
54	Seeds		Free		
55	Soap	Kilo	.25	Pound	.0852
56	Spirits	do	.12	do	.041
57	Starch	do	.05	do	.017
58	Sugar	do	.05	do	.017
	Molasses	do	.05	do	.017
59	Tin	do	.05	do	.17
60	Tobacco:				
	Leaf, cigars and cigarettes	do	.50	do	.017
61	Vegetables		Free		
62	Wood	Kilo	.25	Pound	.0852
	Manufactures of, including furniture put together	do	.25	do	.0852
	Furniture in pieces	do	.12	do	.041
63	Wool	do	.37	do	.126
64	Zinc	do	.05	do	.017

In addition there is a municipal tax of 20 per cent. on the total amount of the tariff collected upon all articles.

The full tariff of Ecuador was printed in Consular Reports No. 72, p. 491.

PERU.

Tariff classification and rates of duty of Peru.

[Prepared by Consul H. M. Brent.]

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Rates.	Unit.	Rates.
			Soles.		
1	Agricultural implements, 5 per cent. ad valorem.				
2	Animals, 10 per cent. ad valorem.				
3	Works of art, 45 per cent. ad valorem.				
4	Bark and extracts, 40 per cent	Kilo	2.00	2,204 lbs.	$1.51
5	Blacking, 45 per cent	....do	.18	....do	.12
6	Bones, hoofs, horns, &c., not specified.				
7	Books, maps, engravings, &c., 10 per cent.	....do	.50	....do	.37½
8	Brass, and manufactures of, 45 per cent	....do	70 to 1.70	....do	$0.52 to 1.22
9	Breadstuffs:				
	Barley, 10 per cent	....do	.02	....do	.0015
	Bread, &c., 70 per cent	....do	.06	....do	.004
	Indian corn, 10 per cent	....do	.02	....do	.0015
	Oats, 10 per cent	....do	.02	....do	.0015
	Rye, 10 per cent	....do	.02	....do	.0015
	Wheat	Sack of 52 kilos.	.60	114 lbs	.45
	Flour, 10 per cent	Kilo	5 to .10	2,204 lbs.	37 to .0075
10	Bricks.				
11	Brooms and brushes:				
	Hand-brushes, 45 per cent	Dozen	.50	Dozen	.375
	Brooms, 45 per cent	....do	3.00	....do	2.25
12	Candles:				
	Stearine and paraffine, 70 per cent	Kilo	.30	lbs.	.22
	Tallow, 70 per cent	....do	.18	....do	.12
	Sperm, 70 per cent	....do	.80	....do	.56
13	Carriages and horse-cars:				
	Two-wheeled carriages, 50 per cent.	Each	2.00	Each	150.20
	Four-wheeled carriages, 50 per cent.	....do	600 to 800.00	....do	450 to 600
	Horse-cars, special agreement.				
14	Railway cars, special agreement.				
15	Chemicals, 40 per cent. ad valorem.				
16	Clocks and watches:				
	Clocks, 45 per cent. ad valorem.				
	Watches, 10 per cent	....do	10 to 60.00	....do	7.51 to 45
17	Coal, 10 per cent	Kilo	.01	2,204 lbs.	.0075
18	Copper:				
	Ore, not specified.				
	Ingots, bar, sheet, 45 per cent. ad valorem.				
19	Cotton, 40 per cent	....do	.20	....do	.15
	Manufactures, 40 per cent. ad valorem.				
20	Earthen, stone, and china ware, 45 per cent.	Decimeter	.10	10″ or 1 meter.	.075
21	Fertilizers, not specified.				
22	Fish:				
	Dry and smoked, 15 per cent	Kilo	.05 to .10	2,204 lbs.	.037 to .0075
	Same, in case, 15 per cent	....do	.10	....do	.0075
23	Flax, hemp, and jute, manufactures of, 10 per cent.	....do	.10	....do	.0075
			.20		.015
			.25		.018
24	Fruits, preserved, 40 per cent	....do	.10 to .30	....do	.0075 to .225
25	Furs, not specified.				
26	Glass, 45 per cent	....do	.15	....do	.115
	Manufactures, 45 per cent. ad valorem.				
27	Glucose, not specified.				
28	Glue, 20 per cent	....do	.75	....do	.055
	45 per cent	....do	.15	....do	.012

Tariff classification and rates of duty of Peru—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Rates.	Unit.	Rates.
			Soles.		
29	Gunpowder:				
	Hunting, 45 per cent	Kilo	.40	2,204 lbs.	$0.31
	For cannon and small arms, prohibited.				
30	Hair, 45 per cent	....do	.25	....do	.18
31	Hay, 40 per cent	....do	.01	....do	.0075
32	Hides and skins, not specified.				
33	Honey, 40 per cent	....do	.30	....do	.225
34	Hops, 10 per cent	....do	.02	....do	.015
35	Ice, 10 per cent	....do	.04	....do	.030
36	India-rubber manufactures, 45 per cent. ad valorem.				
37	Iron and steel manufactures:				
	Iron:				
	For agricultural and mining, 5 per cent. ad valorem.				
	Other classes, from 5 to 45 per cent. ad valorem.				
	Steel:				
	Agriculture and mining, 5 per cent. ad valorem.				
	Other classes, from 10 to 45 per cent. ad valorem.				
38	Jewelry:				
	Fine, 10 per cent. ad valorem.				
	Imitation, 45 per cent. ad valorem.				
39	Lamps:				
	For mines, 45 per cent	Dozen	3.00	Dozen	2.25
	House use, 45 per cent	Decimeter of covering.	.20	Decimeter of covering.	.150
40	Lead:				
	Manufactures, 45 per cent	Kilo	.08	2,204 lbs.	.06
	Manufactures, 45 per cent	...do	.10	....do	.075
41	Leather, 45 per cent. ad valorem.				
	Manufactures, 45 per cent. ad valorem.				
42	Lime, 45 per cent	....do	.01	... do	.0075
	Cement, 10 per cent	....do	.01	....do	.0075
43	Malt liquors:				
	In bottles, 70 per cent	Dozen	3.00	Dozen	2.25
	In barrels, &c., 70 per cent	Liter	.23	1.05 quarts.	.172
44	Medical instruments, 45 per cent. ad valorem.				
45	Naval stores:				
	Rosin and tar, 10 per cent	Kilo	.02	2,204 lbs	.025
	Turpentine and pitch, 20 per cent	Liter	.20	1.05 quarts	.05
46	Oil-cake and meal, not specified.				
47	Oils:				
	Animal, 45 per cent	....do	.23	....do	.172
	Mineral, 45 per cent	...do	.15	....do	.112
	Vegetable, 10 per cent	....do	.08	....do	.060
48	Paraffine and wax, 45 per cent	Kilo	.20	22,046 lbs.	.150
	Do	....do	.50	... do	.375
49	Paints, 45 per cent. ad valorem.				
50	Paper, 45 per cent. ad valorem.				
	For newspapers, 10 per cent	....do	.20	... do	.15
	Manufactures of, not specified.				
51	Plated ware, 45 per cent	.. do	2.00	.. do	1.50
52	Provisions:				
	Meats:				
	Fresh, 10 per cent. ad valorem per head				
	Salt, 15 per cent	....do	.15	2,204 lbs	.11
	Oleomargarine, unknown here.				
	Lard, 40 per cent	....do	.25	....do	.18
	Butter, 70 per cent	....do	.40	....do	.30
	Cheese, 70 per cent	....do	.10	... do	.75
53	Quicksilver, 10 per cent	.. do	.60	....do	.45
54	Seeds, 10 per cent	....do	.15	....do	.11
55	Soap, 70 per cent	....do	.15	....do	.11
56	Spirits, 70 per cent	Dozen	8.00	Dozen	6.00
	In wood, 70 per cent	Liter	.60	1.05 quarts.	450
	Over 30 per cent. proof, 70 per cent.	.. do	1.20	....do	.90
57	Starch, 40 per cent	Kilo	.15	2,204 lbs	.11
58	Sugar, 70 per cent	....do	.25	....do	.18
	Molasses, 40 per cent	.. do	.30	....do	.22

Tariff classification and rates of duty of Peru—Continued.

Number.	Tariff classification.	Tariff rates of duty.		Equivalent in United States money.	
		Unit.	Rates.	Unit.	Rates.
			Soles.		
59	Tin, 45 per cent	Kilo	.30	2,204 lbs	$0 22
60	Tobacco:				
	Leaf, 70 per cent	do	.90	do	.67
	Cigars, 70 per cent	do	2.00	do	1.50
	Cigarettes, 70 per cent	do	3.00	do	2.25
61	Vegetables:				
	Fresh, 10 per cent	do	.05	do	.03
	Preserved, 40 per cent	do	.08	do	.06
62	Wood, 10 to 45 per cent. ad valorem, according to class.				*
	Manufactures (furniture, &c.), 50 per cent.	do	.12	do	.09
63	Wool:				
	Unwashed, 40 per cent	do	.12	do	.09
	Washed, 40 per cent	do	.16	do	.12
64	Zinc:				
	Ingot or bar, 20 per cent	do	.10	do	.075
	Sheets, 20 per cent	do	.12	do	.09
	Manufactures of, 45 per cent	do	.30	do	.23

UNITED STATES OF COLOMBIA.

Tariff of duties on imported merchandise in the Republic of Colombia.

[Transmitted by Consul Vifquain.]

ARTICLE 1. Foreign merchandise on its importation into the national territory is subject to the following duties for each kilogram:

Food and condiments:	
Yams or sweet potatoes, potatoes, onions, Indian corn, rice, peas, lentils, beans, and every kind of vegetable, garden stuff, and fresh fruit	$0 01
Garlic	05
Different kinds of flour, including sago, arrow-root, tapioca, corn starch, and similar articles	05
Codfish and meat, in pickle, and fish and meat not prepared in general	05
Sugar	05
Hazel-nuts, nuts, and almonds in their shell, and in general all unprepared food not mentioned	10
Vermicelli and similar pastes	10
Preserved food, as mortadela, salmon, ham, sweet meats, confitures, preserved and dried fruits, &c., also pickles and condiments of all kinds not specially mentioned	20
Olives, in barrels	10
Tea	70
Cinnamon	30
Saffron	1 20
Anise seeds	20
Ice	01
Liquors:	
Beer and other fermented liquors	10
Yeast, or other fermented or unfermented stuff, liquid or solid, for making beer and condensed beer	02½
Ordinary claret, in pipes or barrels and demijohns	02½
White and sweet wines, in pipes or barrels	05
All other wines	40
Spirituous liquors, as brandy, rum, gin, whisky, rosoli, &c., and the essences for making same	40
Other liquids:	
Vinegar, in barrels	05
Olive oil, in jars or tins	05
Olive oil, in bottles	10
Linseed oil for preparing paint	10
Black writing ink	05
Colored writing ink	10
Inks for printing, book-binding, and lithography, liquid or solid	01
Liquids in general, except perfumery and others specified	20
Cotton:	
Cotton manufactured into unbleached cloth, without any white and colored part, and without figures or sewing	40
In blue fulas or white cloth, or unbleached, with white parts, smooth, without coloring, figures, sewing, or embroidery, such as those known as bogotanas, calicots, liencillos, madapolanes, croydons, and others of the same kind	50
Drills and other white and colored fabrics not mentioned in other parts of this tariff	60
Coverlets, Marseilles and figured, and damasked fabrics not comprised in other groups, and velveteen, tape, and ribbons	70
Ordinary handkerchiefs, with or without borders, shawls and ruanos, and fabrics for making same	80
Socks and other textiles, commonly called tricot material, as undershirts, drawers, and gloves, muslins, lawns, and other transparent fabrics, damasks, carpets, hammocks, and ready-made clothing, without embroidery, laces, or other ornaments of articles subject to higher duties	90
All kinds of embroidered fabrics, or meshed, and their imitations, inclusive, laces, insertions, and other similar, and ready-made clothing not mentioned in other groups	1 20
White thread	40
Colored thread	60
Fringes, galloons, cords, braids, tassels, and similar objects	90
Wicks for lamps and tinder-boxes	20
Wicks and twisted cotton for bugies, candles, or matches	10
Cords for bridle reins	20
Hemp and linen:	
Empty sacks or bags of hemp, tarred or not, with or without impermeable paper, and also the ordinary fabric they are made of	02½
Coleta	10
Common unbleached fabrics, as creguela, sheeting, brin, duck, caserillo, and fabrics for awnings, excepting drills	30
Fine unbleached fabrics, excepting drills and the other fabrics mentioned in the following groups of this tariff	60
Brown, white, and colored drills, creas, platillos, ulemanisco, fabrics for table-cloth, towels, and napkins, bed-covers, lining for beds, ribbons, sheeting, and similar articles, which are not specified in other clauses of this tariff, all of them without sewing or embroidery	80

Tariff of duties on imported merchandise in the Republic of Colombia—Continued.

Hemp and linen—Continued.	
Handkerchiefs, caps, socks, gloves, britannias, coquillo, estopilla, picardia, irlanda, labales, roarrandop, fine cambric, and listados imitating that fabric, of cotton, fringes, galloons, bandages, braids, cords, tassels, and other similar articles and ready-made clothing, without embroidery, lace, or other ornaments, which may belong to goods subject to a higher duty	$1 00
All kinds of embroidered fabrics or meshed, and its imitations, including laces, embroideries, and similar articles, and in ready-made clothing not mentioned elsewhere	1 20
Thread	40
Tarred cords and ropes	05
Cords not mentioned before	40
Varnished fabrics for roofing of country buildings and bridges	05
Common fabrics, prepared or varnished, for floors, and common oil-cloth for coaches, not comprising that for table covers	20
Wool:	
Wool not manufactured	05
Blankets	50
Thread for knitting, &c	60
Carpets for floor or rugs	70
Baize, heavy coarse cloth, serge	90
Transparent fabrics, all kinds of embroidered or meshed fabrics and its imitations, including laces, embroidery, and the like articles, and ready-made clothing	1 20
All other fabrics not mentioned in this tariff	1 00
Silk:	
Silk in threads, fabrics, &c	1 20
Various fabrics and threads:	
Brocades and other fabrics of gold, silver, or other metals, as also thread of the same material	1 20
Fabrics of horse hair, and other material not mentioned	60
Oil-cloth for coverings of furniture, and all covers not mentioned	60
Patterns in small pieces up to 25 kilograms	01
Mixed fabrics pay the same as the highest classed material they contain.	
India-rubber:	
India-rubber not manufactured	40
Shoes, boots, and all kind of shoes, life-preservers, and fabrics for leggings and ruanas, which do not contain wool or silk	80
Tubes, hose, and pipes, for pumps, drains and roofs, and india-rubber prepared for machinery and flooring, except hose for fire-engines, which pay only 1 cent per kilogram	05
Covers or stoppers for bottles	10
Elastic cloth for books	60
Buttons not covered	40
Manufactured in any other form	1 00
Hides or skins:	
Hides or skins not prepared, except those enamaled	20
Enameled leather not manufactured	30
Boots, shoes, &c	1 00
Gloves, caps, skins for adorning dresses, &c., pocket-books, cigar cases, satchels, and other similar articles	1 20
Manufactured in other forms not mentioned	1 00
Earthenware:	
Common earthenware and stoneware in any form	10
Porcelain ware and Chinaware	20
Empty jars or pots, bottles, flasks or small flasks of earthenware for filling, and in general the common pottery	02½
Tube, pipes and channels for pumps, drains and roofs	05
Crystal and glass:	
Common demijohns and bottles of black or transparent glass for filling	01
Empty common flasks and small flasks of glass	05
Plate glass without quicksilver	05
Looking-glasses up to 25 centimeters size	20
Looking-glasses of more than 25 centimeters size	40
Beads, pearls, avalorios, beads in form of stones and jewelry, glasses for watches and lenses, and others similar	60
In any other form	20
Articles for illuminating and other uses:	
Wax, white, yellow, or laurel, not manufactured	30
Wax, white, yellow or laurel, in candles of other form	40
Crude sperm oil	20
Sperm candles, &c	30
Stearin and paraffine not manufactured	02½
Idem, in candles, &c	30
Unmanufactured tallow	01
Tallow candles and others for which duties are not specially fixed	20
Petroleum	10
Wooden matches	20
Wax matches	40
Drugs and medicines:	
Drugs and medicines in general, except sulphur and alum, which pay 20 cents the kilogram, sulphuric acid and nitre, which pay 5 cents, and potash or caustic soda, the ashes and salts of soda, rosin and subcarbonate of potash and of soda, which pay 2½ cents	30
As medicines are comprised the objects applicable in sickness, as trusses, suspenders, &c., but not the vessels and utensils of porcelain, &c., for apothecary shops, nor surgical instruments and the like objects, which pay according to the ordinary dispositions of the tariff.	
Perfumery and soaps:	
Florida water, Divina, and Kananga	80

Tariff of duties on imported merchandise in the Republic of Colombia—Continued.

The further articles of perfumery and toilet, as essences, soaps, cream, razor-straps, tooth-brushes, and cloth-brushes, &c., not mentioned in any other part of this tariff	$1 20
Common soap, of oil	20
Common soap, of rosin or tallow	05
Paper and pasteboard:	
Paper, in newspapers, pamphlets, and printed sheets	01
White, without glue and colored, for printing	05
Straw or any other ordinary kind for wrapping up or packing	05
Sand-paper	05
Cigarette paper	05
Writing paper, envelopes, and any other kind not mentioned, and office utensils which are not mentioned elsewhere	20
Fine white paper (foolscap paper)	10
Ruled paper for music	30
Blank books, ruled or not, note books	40
Printed books	20
Paper and card-board in sheets, maps, and engravings of any kind, and written or printed music	40
Gilt or silvered entirely	40
Tapestry paper, and marbled or colored, for covers of books and other uses	20
Card-board, for printing, bookbinding, lithography, and other industrial uses	05
Card-board, in any other form, except in playing-cards, which pay $1.20 the kilogram	20
Wood:	
Lumber for construction, as poles, beams, railroad sleepers, beams, and boards, not planed or dressed	00
Planed common wood, and planed wood for cabinet-making, or not planed, which is not carved, except veneering	01
Veneering	20
Moldings, carvings, and adornments, for furniture and frames, gilt or not	30
Beds, large tables for dining-rooms, presses or large chests of drawers for linen and other uses, without looking-glasses, sculpture, carved, or adornments	05
All kind of furniture with looking-glasses, sculpture, carved, or upholstered with wool or silk	30
Furniture not mentioned	20
In furniture of any kind, not including mattresses, cushions, &c., when imported separately, which belong to the class assigned to their cover.	
Statues or images and altars for churches	20
Organs and pianos	10
Harmoniums, hand-organs, and harps	20
Other musical instruments	1 00
Pencils (for office use and carpenters)	20
Molds, squares (instruments of arts and professions)	20
Large bellows, for forges	05
Bellows of all kinds, except large ones for forges	20
Uncovered wooden saddle-trees	20
Buckets or troughs	05
Barrels, pipes, or casks, put together or not, for packing and filling	02½
Cocks for barrels and pipes	05
Empty common wooden boxes finished in rough, put together or not, for filling	02½
Boards for match-boxes and in matchwood	05
Cars and carriages for railroads	00
Cars and trucks for transport of goods and similar use	02½
Coaches and carriages of all kinds	05
Velocipedes	40
Ships, entire or in pieces, which are brought to navigate the interior waters of the Colombian territory	01
Oars for boats	05
Houses in pieces	01
Windows, doors, &c., when shipped separate	05
Machinery for ships, arts, and trades, industries, agricultural, and for mines	05
Canes without swords (sword-canes pay the same as arms)	80
Wood in forms not described	40
Henequen, hemp, and other similar articles:	
Empty sacks or bags of fiber and hemp, tarred or not, with or without impermeable paper, and also the fabric they are made of	02½
Hay and waste in its raw state	01
Palm for making hats	05
Esparto, straw, and common cane, not manufactured or in brooms	05
Willow baskets or other cane	20
Mats or small mats, of all kinds	05
Iron and steel:	
Iron not manufactured	01
Rails, spikes, and similar pieces for railroads for public use	00
Rails for roads, which are not for public use	05
Ships or pieces for same	01
Anchors, grapplings for smaller crafts	02½
Bridges for public roads	.....
Bridges not for public roads	05
Gas meters, apparatus, tubes, and lanterns for public lighting in towns	.....
Objects destined for building or repairing prisons	.....
Wire for public telegraphs	.....
Wire for private telegraphs	02½
Iron or steel wire for fences	02½
Railings for the embellishment of public buildings and squares	.....
Lightning conductors	.....
Tubes, for public district water works, and fountains or fonts for same	00

Tariff of duties on imported merchandise in the Republic of Colombia—Continued.

Iron and steel—Continued.	
Towers for light-houses and beacons	$0 01
Clocks for towers, including their dials and bells	05
Houses and galvanized sheets to cover the roofs	01
Balustrades for buildings, doors, and windows, when shipped separately	05
Fire-engines	01
Hydraulic pumps and machines, with their respective tubes and pipes	05
Machinery exceeding 1,000 kilograms in weight	01
Machinery for manufactures and mines	01
Agricultural machines	02½
Machinery for arts, trades, and industries	05
Machinery of any kind, weight not exceeding 1,000 kilograms	05
Presses for printing, bookbinding, lithography	02½
Motors of any kind and power	02½
Tinned metal, in sheets or sheet tin	05
Motors and large tubes for machines to clean coffee	02½
Large boilers	05
Tanks for drinking water	01
Stamps for mills used for crushing quarts mineral	05
Anvils and pulleys	05
Ploughs	02½
Iron or steel, manufactured in sheets or rods, not comprised as unmanufactured iron, beds, heavy chains, safes or strong boxes, nails, untinned kitchen utensils or tinned only inside, irons for ironing linen, and large and voluminous tools for agriculture, stone-cutting, as hoes, adzes, bars, large bars, or excavators, reaping-hooks and hatchets, large augers, shovels, large hammers, pick-axes, augers, pruning-hooks, and machetes for cutting brush, their length not exceeding 43 centimeters	05
Tools for blacksmiths, stone-cutting, carpenters, and masons	20
Molds (tools for arts and trades)	20
Wire, iron rings, hinges, screws, and springs for furniture	20
Furniture	20
Hoops or bands, wheels, axles, springs, and cones, for cars and carriages	05
Levers, scales, or balances which indicate more than 100 kilograms	10
Idem, idem, which indicate up to 100 kilograms	20
Combs for horses and curry-combs	20
Kitchen utensils and other objects of brass or iron, tinned inside and outside	20
Knives for arts and trades, as those for book-binding and book-making	20
Cutlery not mentioned in other parts	40
Weapons, fire-arms or any other kind, including guns	1 00
Knives and scissors, fine or medium, knives and forks, with handles of ivory, mother-of-pearl, plated and britannia metal, nipples for firearms, gilt or plated beads, pencil cases, jewelry and gilt and plated objects, or those called electro-plate, or German silver, fine or medium	1 00
Steel in bars or rods for manufacturing and as augers	20
Iron or steel manufactured into forms not described	1 00
Copper or bronze:	
Copper and bronze not manufactured in bars or ingots	10
In sheets of any weight	10
In large pans or kettles or articles of other kind, their weight exceeding 25 kilograms	20
In objects, the weight of every piece exceeds 500 grams, but not 25 kilograms	40
In objects, their weight not exceeding 500 grams	50
Jewelry, beads, galloons, spangles, tassels, tube-shaped beads, thread, and other similar objects, and in electro-plated pieces, and cartridges for fire-arms	1 00
Statues, destined for the ornament of buildings and public squares	00
Tin:	
Tin in ingots	10
As plates or any other object	40
Pulverized or in sheets	50
Lead:	
Lead in ingots or in sheets, tubes, or other objects, their weight exceeding 5 kilograms, and as shot or objects for printing	05
Toys and paper, or in thin sheets	70
Caps for bottles	10
In any other form	40
Zinc:	
Zinc not manufactured in sheets, including zinc for covering roofs and as tubes	05
Manufactured in any other form	40
Quicksilver	20
Gold:	
Gold in bars	02½
In coins not inferior to the standard of 900 fine	00
In any other form	1 20
Silver:	
Silver in bars	02½
In coins not inferior as the standard of 900 fine	00
In any other shape	1 20
Powder:	
Coarse and ordinary powder for mines, in barrels or otherwise packed, its gross weight exceeding 2 kilograms	10
Fine-grained powder, in tins or other make up, and in general the class not comprised in the foregoing paragraph	60
As fire-works	70
Stone, materials for construction, and other crude materials:	
Filtering stones	02½
Stones for lithography, grinding, whet, and pumice stones	05
Flints	10

Tariff of duties on imported merchandise in the Republic of Colombia—Continued.

Stone, materials for construction, and other crude materials—Continued.	
Marble and jasper, in tiles and bricks	$0 02½
not in tiles or bricks nor in lithograph stones	20
as dust, clay, or roman cement, lime, crude plaster of paris, or in powder, chalk, feldspar, silicate, bone-dust, and other crude materials for the manufacture of earthenware	02½
Statues and monuments destined to ornament of buildings and public squares	00
Slate for roofing	02½
Clay tiles	00
Shingles	01
Materials for construction, as rough stones, bricks, and tiles, of clay and stone	00
Plaster of paris manufactured in any form not mentioned in any other part of this tariff	20
Colored earth for buildings	05
Alabaster in any form	20
Crucibles for melting	05
Sundries:	
Live animals	00
Mineral coal	01
Tar	05
Black pitch, used in constructing vessels	05
Rosin	01
Common glue	20
Oakum or filastic, or felt for packing	05
Varnish	20
Paint, in powder or prepared	20
Common brushes	20
Brushes for horses or boots	20
Blacking for boots	20
Black wax	05
Seeds, roots, and bulbs, or shoots of plants and live plants	01
Guano	05
Hops	10
Tobacco in leaves or cut for cigarettes	05
Idem, prepared for chewing	30
Idem, manufactured	60
Bones and horns not manufactured	05
Tubes, gutters, and pipes, of wood, india-rubber, earthenware, clay, or metal, for pumps, drains, roofs, except for fire-engines	05
Slow-matches for mines	05
Cork-wood in boards or in corks, for bottles, &c	10
Common buttons of bone, horn, ivory nut, and paste, without cover	40
Common buttons of mother-of-pearl shell	60
Common horn combs	40
Slates, slate-pencils for writing	05
Precious stones	1 20
Umbrellas	80
Hats, caps, &c., pay respectively; also the ready-made clothing, as the fabrics or materials they are made of; except those of straw, which pay $1.20 each kilogram, and 60 cents when ordinary	
Objects introduced for account of the National Government	Free.
Articles which for their own use bring, or import, foreign ministers or diplomatic agents, who come accredited to the Government of the Republic, provided that those nations they represent concede equal grants to ministers and diplomatic agents of the republic, and that the requisites the law imposes on this subject are complied with	Free.
The natural productions of Ecuador, Venezuela, Peru, and other nations to which has, or will be, conceded by public treaties, franchise with character of reciprocity	
Luggage of passengers up to 100 kilograms for each person, if evident that the articles are for their own use, and are presented by them personally when passing through the custom-house and enter the national territory. For the excess without invoice they pay as goods of the highest class of this tariff	
All articles not mentioned in this tariff pay	1 20

Paragraph. The before specified goods form, in consequence, one class exempt of duty, and thirteen charged with 1, 2½, 5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, and 120 cents, respectively, and are called as to their order, first, second, third, &c.

The secretariate of haciendá will form and publish a résumé of this tariff, dividing it into the expressed classes.

ART. 2. The importation of money inferior to the standard of 900 thousands fine is prohibited, as also machinery for making money, arms, and ammunition of war, if not done by the National Government.

ART. 3. The transit through the national territory of machinery, arms, and ammunition, mentioned in the foregoing article, and nitro-glycerine, is equally prohibited.

ART. 4. Additional 25 per cent. on the ordinary duties of import, established by decree No. 693 of 1885, will continue to be collected for the articles indicated in the same decree.

ART. 5. The dispositions of this decree will commence to be put in force from the 1st of October, 1886.

URUGUAY.

Duties as collected under tariff law of Uruguay, taking effect September, 1886.

[Report of Consul Bridgers.]

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.		Duty.
		Montevideo.	United States.			
1	Agricultural implements:					*Pr.ct.*
	Sowing-machines	Each	Each	$8 00 to	$70 00	8
	Corn-crushers	....do	....do	8 00		8
	Corn-shellers	....do	....do	6 00 to	300 00	8
	Grain-winnowers	....do	....do	20 00 to	100 00	8
	Harrows	....do	....do	15 00 to	50 00	8
	Scythes	... do	....do		75 00	8
	Scythes and reapers combined	....do	....do		150 00	8
	Reaper and binder	....do	....do		200 00	8
	Thrashers (steam)	....do	....do	50 00 to	1,500 00	8
	Plows	....do	....do	5 00 to	20 00	8
	Shovels	Dozen	Dozen	1 20 to	10 00	8
	Pickaxes	..do	....do	3 00 to	7 00	8
	Rakes	..do	... do	2 40 to	6 00	8
	Hoes (large)	Kilo	2.2 pounds	15 to	25	8
	Hoes (small)	do	....do	15		8
2	Animals	Free				8
3	Art works: Monuments, statues, &c. (marble), valued at custom-house.					30½
4	Bark of various kinds	Kilo	2.2 pounds	6 to	1 50	47
	Extracts of various kinds	....do	....do	20 to	30 00	47
5	Blacking, in bottles and boxes	Dozen	Dozen	25 to	1 20	30½
6	Bones, hoofs, horns, &c., not in tariff.					
7	Books of all kinds (bound)	Kilo	2.2 pounds		60	8
	Books of all kinds (not bound)	....do	....do		60	6
	Prayer-books, with covers of tortoise-shell, ivory, Russian leather or imitation, &c.	Dozen	Dozen		36 00	30½
	Maps	Kilo	2.2 pounds		2 00	6
	Engravings of all kinds	....do	....do		4 00	30½
8	Brass:					
	Sheets or bars	....do	....do		50	30½
	Ingots	....do	....do		50	20
	Powder	....do	....do		2 00	30½
	Manufactures:					
	Oil-cans	Dozen	Dozen		8 00	30½
	Wire	Kilo	2.2 pounds		48	30½
	Knockers	....do	... do	1 00 to	1 50	30½
	Chandeliers, for gas, kerosene, &c	....do	...do		1 50	30½
	Large rings	....do	....do		70	30½
	Hinges	...do	....do		1 00	30½
	Pumps, Nos. 1 to 3	One	One		15 00	30½
	Chains	Kilo	2.2 pounds		1 00	30½
	Beds	One	One	17 00 to	60 00	30½
	Padlocks	Dozen	Dozen	70 to	2 50	30½
	Candlesticks	Kilo	2.2 pounds		70	30½
	Faucets	....do	....do		1 50	30½
	Cannons (toy)	....do	....do		1 00	30½
	Pipes	....do	....do		60	30½
	Bells (small), for dogs' collars, &c	....do	....do		1 00	30½
	Door and window bolts (Spanish)	Dozen	Dozen	6 50 to	28 80	30½
	Collars for dogs	Kilo	2.2 pounds		1 40	30½
	Compasses	Pair	Pair		80	30½
	Stirrups	Kilo	2.2 pounds		65	30½
	Lanterns	One	One	1 80 to	10 00	30½
	Hooks (small)	Kilo	2.2 pounds		1 20	30½
	Screens (fire)	One	One		20 00	30½
	Fire sets	...do	do		2 40	30½
	Knobs	Kilo	2.2 pounds		1 50	30½
	Pulleys	do	... do		1 00	30½
	Levels	Dozen	Dozen		7 20	30½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.	Duty.
		Montevideo.	United States.		
8	Brass—Continued.				Pr. ct.
	Rings for sails	Kilo	2.2 pounds	$1 10	30½
	Bolts	do	do	1 20	30½
	Curry-combs	Dozen	Dozen	80	30½
	Clothes-racks	do	do	1 60	30½
	Ornamental knobs (for beds)	Kilo	2.2 pounds	1 10	30½
	Smoothing-irons	do	do	1 00	30½
	Smoothing-irons (steam)	Dozen	Dozen	12 00	30½
	Plummets	Kilo	2.2 pounds	70	30½
	Weights	do	do	40	30½
	Door-springs	Dozen	Dozen	1 20	30½
	Casters	Kilo	2.2 pounds	1 00	30½
	Spittoons	12 pairs	12 pairs	9 00	30½
	Solder	Kilo	2.2 pounds	80	30½
	Pans	Kilo	2.2 pounds	80	30½
	Gauze	do	do	1 00	30½
	Inkstands	Dozen	Dozen	24 00	30½
	Screws	Kilo	2.2 pounds	1 00	30½
	Other manufactures not specified in tariff.	do	do	1 10	30½
9	Breadstuffs:				
	Barley, gross weight	100 kilos	120 pounds	$4 50 to 9 00	30½
	Biscuits, gross weight	Kilo	2.2 pounds	35	43
	Indian corn	do	do	20	30½
	Oats (not in tariff).				
	Rye, gross weight	do	do	05	30½
	Wheat will pay a specific duty in proportion to the value of same in market, for 100 kilos. or 220 pounds, viz: $1.25 when its market value is $4; $1 when its market value is $4.01 to $5; $0.75 when its market value is $5.01 to $6; $0.25 when its market value is $6.01 to $7; $0.125 when its market value is $7.01 to $8, and will be free of duty when its market value is more than $8.				
	Flour will pay a duty in proportion to the market value of wheat, viz: 32½ per cent. when wheat's value is from $2.40 to $3.20; 27½ per cent. when from $3.21 to $4; 23½ per cent. when from $4.01 to $4.80; 17½ per cent. when from $4.81 to $5.60; 15 per cent. when from $5.61 to $6.40; 12½ per cent. when from $6.41 to $7.20; 10½ per cent. when from $7.21 to $8; 7½ per cent. when from $8.01 or more.				
10	Bricks.				
11	Brooms	Dozen	Dozen	60 to 8 00	30½
	Brushes of all kinds	do	do	60 to 20 00	30½
12	Candles, gross weight	Kilo	2.2 pounds	20 to 80	43
13	Carriages	Each	Each	(*)	47
	Horse-cars	do	do	800 to 1,000 00	30½
14	Cars (railroad steam), not in tariff.				
15	Chemicals:				
	Muriatic acid	Kilo	2.2 pounds	07	8
	Nitric acid	do	do	20	8
	Sulphuric acid	do	do	07	8
	Carbonate of soda	do	do	06	8
	Vegetable colors:				
	Solid	do	do	1 50	47
	Liquid	do	do	40	47
	Dynamite	do	do	80	30½
	All other kinds				47
16	Watches (gold and silver)	Each	Each	3 00 to 65 00	8
	Clocks	do	do	2 00 to 120 00	30½
	All others not specified in tariff				30½
17	Coal	1,000 kilos	2,500 lbs	10 00	6
18	Copper:				
	Sheets	Kilo	2.2 pounds	50	30
	Ingots and bars	do	do	40	30½

* Valued at custom-house.

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.		Duty.
		Montevideo.	United States.			
						Pr. ct.
19	Cotton (raw)	Kilo	2.2 pounds		$0 50	30½
	Cotton manufactures:					
	Blankets	....do	....do	$0 60 to	1 20	30½
	Germanic	....do	....do		1 20	30½
	Bibs	Dozen	Dozen		1 00	30½
	Gowns	....do	....do		6 00	47
	Boas	Kilos	2.2 pounds		4 00	30½
	Bombazine	....do	....do	90 to	1 20	30½
	Wide Russia sheeting (Brin)	....do	....do	60 to	90	30½
	Stockings	Dozen	Dozen	80 to	2 50	30½
	Drawers	....do	....do		4 00	30½
	Shirts	....do	....do		6 00	47
	Chemises	....do	....do	6 00 to	14 00	47
	Undershirts	....do	....do	3 50 to	8 00	47
	Crumb cloths (1 square yard)	....do	....do		3 20	30½
	Cassimere	Kilos	2.2 pounds		90	30½
	Cloth	....do	....do	90 to	1 20	30½
	Vests	Dozen	Dozen		3 60	47
	Tape	100 meters		2 00 to	5 00	30½
	Belts	Dozen	Dozen		80	30½
	Cord	Kilo	2.2 pounds		90	30½
	Bed ticks	....do	....do		75	30½
	Crape	....do	....do		10 00	30½
	Cretonne	....do	....do		1 00	30½
	Collars (for ladies)	Dozen	Dozen	3 00 to	15 00	47
	Collars (for men)	....do	....do	1 00 to	1 50	47
	Damasks	Kilo	2.2 pounds	1 00 to	1 50	30½
	Aprons	Dozen	Dozen	(*)		30½
	Undershirts	One	One	1 00 to	1 80	47
	Laces	100 meters			50	30½
	Bandages	Kilo	2.2 pounds		3 00	30½
	Linings	Dozen	Dozen		80	30½
	Flannel	Kilo	2.2 pounds		90	30½
	Calico (1.094 yards width)	Meter	1.094 yds.		16	31
	Crash (for towels)	Kilo	2.2 pounds		1 00	30½
	Caps for children	Dozen	Dozen		2 40	30½
	Gloves	12 pairs	12 pairs		1 00	30½
	Table-cloths	Kilo	2.2 pounds		1 50	30½
	Jackets	Dozen	Dozen	10 80 to	14 40	47
	Linen	Kilo	2.2 pounds		50	31
	Canvas or sail cloth	....do	....do		60	30½
	Muslin	Meter	1.094 yds.	10 to	30	30½
	Corduroy	....do	....do	35 to	60	30½
	Pantaloons	Dozen	Dozen		7 50	47
	Handkerchiefs	Kilo	2.2 pounds	1 00 to	3 20	47
	Umbrellas	Dozen	Dozen		6 00	47
	Shirt-bosoms	....do	....do		3 00	47
	Cuffs (for gentlemen)	12 pairs	12 pairs		1 50	47
	Parasols (for ladies)	Dozen	Dozen	2 00 to	3 00	30½
	Sun-umbrellas (for gentlemen)	One	One		40	30½
	Mufflers	Kilo	2.2 pounds	1 50 to	3 20	30½
	Napkins	....do	....do	75 to	2 00	30½
	Towels	Dozen	Dozen		80	30½
	Troé	Kilo	2.2 pounds		80	31
20	Earthen, china, and stone ware:					
	Earthenware:					
	Jugs	Dozen	Dozen	2 00 to	3 00	30½
	Filters	One	One	2 00 to	3 00	30½
	Tubes or pipe	....do	....do	25 to	1 20	30½
	Chinaware (porcelain):					
	Sugar-bowls	Dozen	Dozen	2 40 to	4 80	30½
	Candlesticks	12 pairs	12 pairs	3 00 to	5 00	30½
	Tooth-brush dishes	Dozen	Dozen	3 00 to	5 00	30½
	Compotiers	....do	....do	2 80 to	4 00	30½
	Salad-bowls	....do	....do	3 00 to	4 80	30½
	Chamber pots (with cover)	....do	....do	6 50 to	10 00	30½
	Chamber pots (without cover)	....do	....do	4 50 to	7 00	30½
	Sponge dishes	....do	....do	1 50 to	2 60	30½
	Flower-vases	12 pairs	12 pairs	3 00 to	7 00	30½
	Fruit-stands	Dozen	Dozen	3 50 to	5 50	30½
	Platters	....do	....do	3 60 to	6 00	30½
	Covered dishes	....do	....do	6 00 to	10 00	30½
	Egg-stands	....do	....do	40 to	70	30½
	Soap dishes	....do	....do	2 40 to	4 50	30½
	Pitchers	....do	....do	5 00 to	9 00	30½

*Valued at custom house.

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.		Duty.
		Montevideo.	United States.			
20	Earthenware, china, and stoneware—Continued.					
	Chinaware (porcelain)—Continued.					Pr. ct.
	Jugs	Dozen	Dozen	$1 60 to	$2 50	30½
	Milk-pitchers	do	do	2 00 to	3 00	30½
	Butter dishes	do	do	2 40 to	4 20	30½
	Mustard-pots	do	do	1 20 to	3 00	30½
	Basins	do	do	5 60 to	9 00	30½
	Dinner plates	do	do	90 to	1 70	30½
	Ornamental pieces	do	do	4 00 to	8 00	30½
	Plates for dessert	do	do	70 to	1 30	30½
	Stands	do	do	1 50 to	2 40	30½
	Radish dishes	do	do	1 50 to	2 60	30½
	Gravy dishes	do	do	3 00 to	4 80	30½
	Spittoons	do	do	4 00 to	11 00	30½
	Soup-tureens	do	do	9 00 to	16 00	30½
	Cups (small), and saucers for same (tea and chocolate).	do	do	80 to	1 30	30½
	Cups (larger)	do	do	1 20 to	2 10	30½
	Cups without saucers (for soup)	do	do	90 to	1 40	30½
	Tea and coffee pots	do	do	3 60 to	6 00	30½
	Inkstands	do	do	3 00 to	4 50	30½
	Set for dining-room, No. 1, viz: 72 plates; 24 plates for dessert, 1 soup-tureen, 2 covered dishes, 6 dishes, round and oval; 1 salad dish, 2 radish dishes, 1 compotier, 1 fruit dish, 12 small cups and saucers for same, 12 large cups and saucers for same, 1 tea-pot, 1 coffee-pot, 1 sugar-bowl, 1 milk-pitcher, 1 butter dish.			14 50 to	25 40	30½
	Set for dining-room, No. 2, viz: 108 plates; 24 plates for dessert, 2 soup-tureens, 2 covered dishes, 6 dishes, round and oval; 2 salad dishes, 2 radish dishes, 12 egg-stands, 2 compotiers, 2 fruit-stands, 2 mustard pots, 18 cups (small) and saucers for same, 18 cups (larger) and saucers for same, 1 tea-pot, 1 coffee-pot, 1 sugar-bowl, 1 butter dish, 1 milk-pitcher.			20 50 to	36 00	30½
	Set for washstand, No. 1, viz: 1 pitcher, 1 basin, 1 soap dish, 1 tooth-brush dish, 2 powder-boxes, 1 sponge dish.			1 60 to	2 80	30½
	Set for washstand, No. 2, viz: 1 pitcher, 1 basin, 1 chamber-pot, 1 soap dish, 1 tooth-brush dish, 1 sponge dish, 1 bottle and tumbler.			2 40 to	4 20	30½
	Tea or coffee set, No. 1, viz: 1 tea-pot or coffee-pot, 1 sugar-bowl, 1 milk-pitcher, 1 butter dish, 12 cups and saucers for same.			1 70 to	2 70	30½
	Tea or coffee set, No. 2, viz: 1 coffee-pot, 1 tea-pot, 1 sugar-bowl, 1 butter dish, 1 milk-pitcher, 24 cups and saucers for same.			3 40 to	5 60	30½
	Tea set, No. 3, viz: 1 waiter, 1 tea-pot, 1 milk-pitcher, 1 sugar-bowl, 2 cups.				1 50	30½
	Tea set, No. 4, viz: 1 waiter, 2 bottles, 1 sugar-bowl, 2 cups.				3 00	30½
	Stoneware:					
	Sugar-bowls and butter dishes	Dozen	Dozen	1 40 to	3 00	30½
	Tooth-brush dishes	do	do	1 60 to	4 00	30½
	Salad and salt cellars	do	do	1 80 to	4 00	30½
	Chamber-pots (without cover)	do	do	2 00 to	5 20	30½
	Chamber-pots (with cover)	do	do	3 60 to	9 00	30½
	Fruit-stands and compotiers	do	do	2 00 to	4 80	30½
	Platters	do	do	2 00 to	6 40	30½
	Covered dishes	do	do	2 80 to	8 50	30½
	Egg-stands	do	do	40 to	60	30½
	Soap dishes	do	do	1 40 to	3 00	30½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.		Duty.
		Montevideo.	United States.			
20	Earthenware, china, and stoneware—Continued.					
	Stoneware—Continued.					Pr. ct.
	Pitchers	Dozen	Dozen	$2 80 to	$6 50	30½
	Flour-pots	Pair	Pair		120	30½
	Mustard-pots	Dozen	Dozen	60 to	2 00	30½
	Basins	do	do	2 40 to	6 00	30½
	Plates	do	do	40 to	1 20	30½
	Plates for dessert	do	do	30 to	1 00	30½
	Spittoons	do	do	2 00 to	6 00	30½
	Soup-tureens	do	do	8 00 to	20 00	30½
	Cups	do	do	35 to	2 40	30½
	Tea-pots or coffee-pots	do	do	1 60 to	3 60	30½
21	Fertilizers					
22	Fish:					
	Dried codfish (gross weight)	Kilo	2.2 pounds		15	30½
23	Hemp and jute manufactures:					
	Raw hemp	do	do		50	8
	Twine	do	do		50	30½
	Cordage	do	do	15 to	22	20
24	Fruits:					
	Oranges	Hundred	Hundred		50	20
	Peaches and apples				1 00	20
	Bananas				20	20
	Watermelons	Hundred	Hundred		3 00	20
	Tomatoes, peppers, Cucumbers and quinces	Hundred	Hundred		50	20
	Grapes	Kilo	2.2 pounds		20	20
	Ananas	One	One		20	20
	Preserved (all kinds)	Kilo	2.2 pounds		50	51
25	Furs					30½
26	Glass manufactures					
	Chandeliers:					
	2 burners	One	One		15 00	30½
	3 burners	do	do		20 00	30½
	4 burners	do	do		26 00	30½
	5 or 6 burners	do	do		35 00	30½
	7 to 10 burners, in proportion	do	do		55 00	30½
	Sugar-bowls	Dozen	Dozen	1 80 to	5 50	30½
	Waiters	do	do	2 00 to	5 00	30½
	Globes, for lamps	One	One		5 00	30½
	Globes, for street lamps	do	do		3 00	30½
	Bottles of all kinds, for water, &c	Dozen	Dozen	1 20 to	14 00	30½
	Branches of chandeliers	One	One	3 00 to	7 00	30½
	Candlesticks	12 pairs	12 pairs	5 00 to	10 00	30½
	Compotiers	Dozen	Dozen	2 40 to	8 00	30½
	Preserve-dishes	do	do	4 00 to	12 00	30½
	Fruit-stands	do	do	10 00 to	24 00	30½
	Egg-stands	do	do	40 to	1 00	30½
	Pitchers	do	do	4 00 to	14 00	30½
	Pitchers, with cover for milk	do	do	1 80 to	6 00	30½
	Sets for washstands	Set	Set	3 00 to	5 00	30½
	Decanters, with waiter, and 14 wine glasses.	Dozen	Dozen	6 00 to	24 00	30½
	Flower-stands	Pair	Pair	6 00 to	20 00	30½
	Basins	Dozen	Dozen	4 00 to	14 00	30½
	Lamp-shades	do	do	1 50 to	2 40	30½
	Plates	do	do	1 00 to	2 40	30½
	Cheese dishes	do	do	6 00 to	20 00	30½
	Reflectors	do	do		3 00	30½
	Salt-cedars	do	do	60 to	2 40	30½
	Spittoons	12 pairs	12 pairs	6 00 to	24 00	30½
	Lamp chimnies	Dozen	Dozen		50	30½
	Tumblers	do	do	60 to	3 60	30½
	Window panes, &c	Box	Box	3 20 to	10 00	30½
	Goblets	Dozen	Dozen	60 to	3 00	30½
27	Glucose, not in tariff.					
28	Glue of all kinds (gross weight)	100 kilos	220 pounds		24 00	30½
29	Gunpowder	Kilo	2.2 pounds	40 to	68	51
30	Hair, not in tariff.					
31	Hay					20
32	Hides and skins, not in tariff.					
33	Honey	Kilo	2.2 pounds		30	30½
34	Hops, not in tariff.					
35	Ice	do	do		04	30½
36	India-rubber manufactures					
	Pipe	do	do		1 20	30½
	Erasers	do	do	1 40 to	3 50	30½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.	Duty.
		Montevideo.	United States.		
36	India rubber manufactures—Continued.				Pr ct.
	Cord	Kilo	2.2 pounds	$0 60	30½
	Sheets	....do	....do	1 80	30½
37	Iron and steel:				
	Iron manufactures:				
	Ingots	100 kilos	220 pounds	2 00	20
	Bars	....do	....do	5 00	20
	Bars, galvanized	....do	....do	6 50	20
	Sheets	....do	....do	$7 75 to 20 00	20
	Iron dust	....do	....do	20 00	30½
	Wire	ilo.	2.2 pounds	05 to 07	8
	Wire, galvanized	....do	....do	10 to 08	8
	Knockers	....do	....do	50	30½
	Alphabets	Set	Set	50	30½
	Mortars	Kilo	2.2 pounds	50	30½
	Anchors	....do	....do	80	30½
	Rings	....do	....do	09	30½
	Harpoons	....do	....do	44	30½
	Spits of all kinds	....do	....do	28 to 4 80	30½
	Sugar-bowls	....do	....do	45	30½
	Bullets	....do	....do	10	.....
	Buckets	100 kilos	220 pounds	14 50	30½
	Bathing-tubs of all kinds	One	One	5 00 to 40 00	30½
	Rods	Dozen	Dozen	3 50	30½
	Railings	Kilo	2.2 pounds	20	30½
	Crowbars	....do	....do	10	30½
	Boat-hooks	Dozen	Dozen	4 50	30½
	Anvils	Kilo	2.2 pounds	15 to 60	30½
	Hinges	....do	....do	13 to 18	30½
	Pumps:				
	Small	Dozen	Dozen	40 00	30½
	Larger	One	One	10 00	30½
	Braziers	Dozen	Dozen	8 00 to 14 00	30½
	Treenails	....do	....do	1 00	30½
	Stew-pans	Kilo	2.2 pounds	17 to 35	30½
	Chains of all kinds	100 kilos	220 pounds	7 60 to 16 20	30½
	Safes	....do	2.2 pounds	20	30½
	Kettles	Dozen	Dozen	1 60	30½
	Warming-pans	....do	....do	7 20	30½
	Beds	One	One	6 00 to 20 00	30½
	Padlocks	Dozen	Dozen	50 to 5 00	30½
	Crotches	Kilo	2.2 pounds	27	30½
	Coal-scuttles	One	One	1 00	30½
	Cots	....do	....do	3 00	.....
	Anchor-stocks	Kilo	2.2 pounds	10	30½
	Locks of all kinds	Dozen	Dozen	1 00 to 28 80	30½
	Old scrap-iron	100 kilos	220 pounds	60	30½
	Nails, for horseshoes	Kilo	2.2 pounds	25	30½
	Nails, other kinds	100 kilos	220 pounds	7 00 to 15 00	30½
	Stoves	Kilo	2.2 pounds	20 to 30	30½
	Springs for beds	One	One	9 60	30½
	Collars for dogs	Dozen	Dozen	2 40	30½
	Compasses	....do	....do	80 to 2 00	30½
	Cold-chisels	Kilo	2.2 pounds	40	30½
	Spoons	....do	....do	26	30½
	Ladles	....do	....do	24	30½
	Cradles, painted or gilded	One	One	4 80 to 9 60	30½
	Candle-snuffers	Dozen	Dozen	80	30½
	Axles	One	One	7 00	30½
	Grate	Kilo	2.2 pounds	20	30½
	Iron brushes	....do	....do	10	30½
	Chamber-pots	....do	....do	40	30½
	Chain-links	Gross	Gross	2 50	30½
	Spurs	Kilo	2.2 pounds	45 to 90	30½
	Stirrups	....do	....do	80	30½
	Wire-safes	Dozen	Dozen	24 00	30½
	Bridles	Kilo	2.2 pounds	25 to 60	30½
	Bellows	One	One	25 00	30½
	Hooks	Kilo	2.2 pounds	12	30½
	Jack-screws	One	One	6 00	30½
	Screens	....do	....do	10 00	30½
	Horseshoes	Kilo	2.2 pounds	20	30½
	Pitchers of iron plate, painted	Dozen	Dozen	4 50	30½
	Pitchers of tinned iron	Kilo	2.2 pounds	45	30½
	Knockers				
	Keys	Kilo	2.2 pounds	45	30½
	Tuning-keys	Dozen	Dozen	4 00	30½
	Hammers, with handles	....do	....do	2 60	30½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.	Duty.
		Montevideo.	United States.		
37	Iron and steel—Continued.				*Pr. ct.*
	Iron manufactures—Continued.				
	Hammers, for blacksmiths	Kilo	2.2 pounds	$0 22	30½
	Pulleys	Centim'r	.3937 in	04	30½
	Levels	One	One	3 20	30½
	Kettles				
	Basins of tinned iron	Kilo	2.2 pounds	$0 22 to 50	30½
	Gridirons	do	do	18 to 35	30½
	Bolts	do	do	18 to 27	30½
	Pots	do	do	16 to 27	30½
	Clothes-racks	Dozen	Dozen	40 to 1 00	30½
	Knobs	Kilo	2.2 pounds	30	30½
	Weights	do	do	40	30½
	Tinned plates	Kilo	2.2 pounds	30	30½
	Pickets	do	do	12	30½
	Nut-crackers	Dozen	Dozen	1 20	30½
	Rowels for spurs	Kilo	2.2 pounds	60	30½
	Spittoons	12 pairs	12 pairs	10 00	30½
	Frying-pans	Kilo	2.2 pounds	16	30½
	Soup-dishes	Dozen	Dozen	7 00 to 12 00	30½
	Cups of tinned iron	Kilo	2.2 pounds	40	30½
	Teapots (tinned iron)	do	do	80	30½
	Inkstands	Dozen	Dozen	24 00	30½
	Screws	Kilo	2.2 pounds	12 to 14	30½
	Lathes for carpenters, &c	do	do	25 to 75	30½
	Scales, with capacity for weighing not over 2.2 pounds.			2 00	30½
	Scales for each 100 kilograms (220 pounds) capacity.			5 00 to 6 50	30½
	Trevets	Kilo	2.2 pounds	30	30½
	Other iron manufactures not specified in tariff.	do	do	20 to 40	30½
	Steel manufactures:				
	Bars and sheets	Kilo	2.2 pounds	20	20
	Steel for sharpening knives	Dozen	Dozen	2 00 to 6 00	30½
	Chisels	Kilo	2.2 pounds	60	30½
	Chain-links	Gross	Gross	2 50	30½
	Spurs	Kilo	2.2 pounds	1 50	30½
	Stirrups	do	do	2 00	30½
	Axes	Dozen	Dozen	3 00 to 9 00	30½
	Files	do	do	60 to 4 80	30½
	Scabbards	One	One	3 00	30½
	Table service (forks and knives)	Dozen	Dozen	75 to 20 00	30½
38	Jewelry, valued at custom-house				8½
39	Lamps, valued at custom-house				30½
40	Lead and manufactures:				
	Bars or sheets	100 kilo	220 pounds	7 50	20
	Pipe	Kilo	2.2 pounds	12	30½
	Bullets	do	do	12	51
	Ammunition	100 kilos	220 pounds	8 00	51
41	Leather, and manufactures:				
	Valises	One	One	6 00	47
	Harness	Set	Set	30 00 to 110 00	47
	Cruppers	Dozen	Dozen	3 00	47
	Boots and shoes	12 pairs	12 pairs	4 00 to 50 00	47
	Muzzles	Dozen	Dozen	10 00	47
	Headstalls	do	do	7 00 to 30 00	47
	Belly-bands	do	do	6 00 to 10 00	47
	Reins	One	One	2 00 to 4 00	47
	Saddles	do	do	9 00 to 20 00	47
	All others				47
42	Lime, not in tariff.				
	Cement	100 kilos	220 pounds	1 60	20
43	Malt liquors:				
	Beer, in bottles	Dozen	Dozen	2 60	51
	Beer, in barrels	Liter	1½ quart	18	51
44	Medical instruments, not in tariff.				
45	Naval stores:				
	Rosin and pitch	Kilo	2.2 pounds	02	20
	Tar	do	do	03	20
	Turpentine	Liter	1½ quart	14	30½
46	Oil cake and meal, not in tariff.				
47	Oils:				
	Animal:				
	Whale	liter	1½ quart	15	30½
	Fish	Kilo	2.2 pounds	18	30½
	Vegetable	do	do	14 to 1 50	30½
	Kerosene	100 liters	112½ quarts	4 80	30½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.	Duty.
		Montevideo.	United States.		
					Pr. ct.
48	Paraffine and wax	Kilo	2.2 pounds	$0 40 to $0 90	30½
49	Paints	do	do	18 to 1 44	30½
50	Paper and manufactures	do	do	15 to 4 00	8
51	Plated ware:				
	Castors	Dozen	Dozen	100 00	30½
	Sugar-bowls	do	do	48 00	30½
	Walters	Centimeter	.3937 inches	20	30½
	Knives and forks (for salad, &c.)			24 00	30½
	Spoons:				
	Soup and dessert	Dozen	Dozen	6 00	30½
	Coffee	do	do	3 00	30½
	Stew	do	do	12 00	30½
	Salt	do	do	2 00	30½
	Sugar	do	do	6 00	30½
	Soup-ladles	do	do	15 00 to 24 00	30½
	Sets for washing-stands	Set	Set	60 00	30½
	Pitchers	Dozen	Dozen	36 00	30½
	Sugar-tongs	do	do	5 00	30½
	Nut-crackers	do	do	6 00	30½
	Covered dishes	One	One	10 00	30½
	Forks (same as spoons)				30½
	Teapots	Dozen	Dozen	70 00	30½
52	Provisions:				
	Meat, salt	Kilo	2.2 pounds	10	5½
	Lard (gross weight)	do	do	28	5½
	Butter	do	do	63	5½
	Cheese, all kinds	do	do	41	5½
	Holland cheese	Dozen	Dozen	9 00	5½
	Ham (gross weight)	Kilo	2.2 pounds	46	5½
53	Quicksilver	do	do	1 20	17
54	Seeds, all kinds	do	do	25 to 1 00	6
55	Soap, all kinds (gross weight	do	do	09 to 16	35
56	Spirits:				
	Alcohol, in bottles of 1 liter (1.125 quarts).	Dozen	Dozen	$1 90	5½
	Cider:				
	In bottles of 1 liter (1.125 quarts).	do	do	2 50	5½
	In barrels	Liter	1.125 qts	15	5½
	Brandy:				
	In barrels	do	do	35	5½
	In bottles of not over 1 liter	Dozen	Dozen	$2 00 to $3 50 to 6 00	5½
	Gin:				
	In bottles	Liter	1.125 qts	16	5½
	In barrels	do	do	09	5½
	Liquors of all kinds in bottles (not over 1 liter).	Dozen	Dozen	2 20–4 20–5 70–7 00	5½
	Rum:				
	In bottles of not over 1 liter	do	do	5 50	5½
	In barrels	Liter	1.125 qts	36	5½
	Vermouth:				
	In bottles of 1 liter	Dozen	Dozen	3 70	5½
	In barrels	Liter	1.125 qts	20	5½
	Wines:				
	Sherry, Port, Madeira, Rhine, Muscatel, in barrels.	do	do	50	47½
	Other kinds of wine (not specified).	do	do	12	47½
	Asti, Teneriffe, Trontignan, Chiantis, Ponino, in bottles of 1 liter.	Dozen	Dozen	3 30	47½
	Other kinds (not specified) in bottles of ½ liter.	do	do	4 50	47½
	The same, but of 1 liter	do	do	8 00	47½
	Whisky:				
	In bottles of 1 liter (1.125 quarts).	do	do	5 00	5½
	In barrels	Liter	1.125 qts	30	5½
57	Starch	Kilo	2.2 lbs	11	47½
58	Sugar, gross weight	100 kilo	220 lbs	8 00–10 20 to 13 40	30
	Molasses	Kilo	2.2 lbs	06	47½
59	Tin	do	do	36	30½
60	Tobacco:				
	Leaf, (all kinds) gross weight	100 kilo	220 lbs	14 50 to 60 00	41½
	Fine-cut tobacco (all kinds), gross weight.	do	do	41 00 to 120 00	41½
	Cigars, gross weight	Kilo	2.2 lbs	90 to 4 50	51½
	Cigarettes, gross weight	do	do	1 00 to 2 50	51½
61	Vegetables:				
	Potatoes, gross weight	100 kilo	220 lbs	4 50	12½

Duties as collected under tariff law of Uruguay, &c.—Continued.

Number.	Tariff classification.	Weights, measures, or number.		Custom-house valuation, Montevidean gold.	Duty.
		Montevideo.	United States.		
61	Vegetables—Continued.				Pr. ct.
	Beans, gross weight	100 kilos	220 lbs	$7 50	30½
	Other vegetables				30½
62	Wood:				
	Pine in general from ¾ to 1 inch thickness.	100 sq. met.	1,000 sq. ft.	30 00	20
	Pickets, 1⅛ by 2⅛ inches, 1 yard 23 inches length.	Thousand.	Thousand.	40 00	20
	Pickets (spruce), 1 by 3⅛ inches, 1 yard 23 inches length.	do	do	15 00	20
	Walnut, ¾ to 1 inch thickness	100 sq. met	1,000 sq. ft.	100 00	20
	Mahogany, ¾ to 1 inch thickness	do	do	160 00	20
	Ebony	100 kilo	220 lbs	14 00	20
	Planks and boards of hard wood, in general, ¾ to 1 inch thickness.	100 sq. met.	1,000 sq. ft.	60 00	20
	Lumber, from Punta Arenas, ¾ to 1 inch thickness.	do	do	40 00	20
	Pine board (dressed):				
	¾ to 1 inch thickness	do	do	40 00	30½
	½ inch thickness	do	do	30 00	20
	¼ inch thickness	do	do	45 00	20
	Veneering in general, fine included	do	do	12 00	20
	Veneering, rosewood	100 kilo	220 lbs	8 00	20
	Beams of hard wood in general, 6½ by 6½ inches, up to 11½ by 11½ inches thickness.	One	One	5 00	20
	Beams of hard wood in general, of over 11½ by 11½ inches thickness.	do	do	10 00	20
	Logs of hard wood in general, 6½ by 6½ inches up to 11½ by 11½ inches thickness, length 2 yards 30 inches.	do	do	2 00	20
	Logs of hard wood in general, of over 11½ by 11½ inches thickness; length 3 yards 30 inches.	do	do	4 00	20
	Joists of hard wood in general, up to 4 by 10 inches thickness.	do	do	1 50	20
	Masts of over 16 inches diameter in the middle.	do	do	100 00	20
	Railroad ties, 5½ by 10 inches thickness; length 3 yards 10 inches.	do	do	1 00	20
	All other kinds of wood		do		20
	Wood manufactures:				
	Sideboards, all kinds of wood	One	do	$20 00 to 50 00	47
	Benches, all kinds of wood	do	do	1 00 to 4 00	47
	Bookstands, all kinds of wood	do	do	20 00 to 50 00	47
	Beds, all kinds of wood	do	do	15 00 to 40 00	47
	Bureaus, all kinds of wood	do	do	15 00 to 30 00	47
	Cradles	do	do	2 00 to 18 00	47
	Desks, all kinds of wood	do	do	10 00 to 40 00	47
	Sculptures, all kinds of wood	do	do	Val. at custom-house.	47
	Shelves, all kinds of wood	do	do	$3 00 to 16 00	47
	Sets for bed-room (American)	do	do	50 00 to 120 00	47
	Washstands	do	do	8 00 to 35 00	47
	Tables (dining-room, &c)	do	do	2 00 to 30 00	47
	Clothes-racks	do	do	3 00 to 12 00	47
	Chairs, all kinds of wood	Dozen	Dozen	5 00 to 45 00	47
	Sofas	One	One	5 00 to 40 00	47
	All others				47
63	Wool (not in tariff).				
94	Zinc:				
	Sheets	100 kilo	220 lbs	10 50	20
	Ingots	do	2.2 lbs	09	20

UNITED STATES CONSULATE,
Montevideo, September 1, 1886.

The difference between the United States currency and that of Uruguay is so small that I have not attempted to reduce the valuation to the former, the value of the nominal current dollar of Uruguay being 103.52 cents, estimated in American gold dollars.

P. L. BRIDGERS,
United States Consul.

VENEZUELA.

This tariff is levied uniformly on the gross weight of packages. The value of the bolivar is equal to .1923 centimes in American gold. Forty-six kilos are equal to 100 pounds.

All foreign merchandise is divided into nine classes, on which duty is collected as follows:

First class.—Free.

Second class.—Ten centimes of a bolivar per kilo (.8769 cent. United States currency per 100 pounds).

Third class.—Twenty-five centimes of a bolivar per kilo ($2.2115 United States currency per 100 pounds).

Fourth class.—Seventy-five centimes of a bolivar per kilo ($6.6346 United States currency per 100 pounds).

Fifth class.—One bolivar and 25 centimes per kilo ($11.0577 United States currency per 100 pounds).

Sixth class.—Two bolivars and 50 centimes per kilo ($22.1154 United States currency per 100 pounds).

Seventh class.—Five bolivars per kilo ($44.2308 United States currency per 100 pounds).

Eighth class.—Ten bolivars per kilo ($88.4616 United States currency per 100 pounds).

Ninth class.—Twenty bolivars per kilo ($176.9232 United States currency per 100 pounds).

Tariff of Venezuela on the products and manufactures of the United States.

[Prepared by Consul W. S. Bird.]

No.	Classification.	Class.
1	Agricultural implements	First.
2	Animals (live)	Do.
3	Art works:	
	Paintings and portraits on canvas, wood, paper, stone, or metal	Fifth.
	Monumental	First.
4	Bark and extracts:	
	Tan	Second.
	Sassafras	Fifth.
	Medicinal	Do.
	Extracts	Do.
5	Blacking	Fourth.
6	Bones:	
	Unmanufactured	Third.
	Manufactured	Sixth.
	Hoofs, unmanufactured	Third.
	Horns:	
	Unmanufactured	Do.
	Manufactured	Sixth.
7	Books:	
	Unbound or in rustic binding:	
	Blank	Fifth.
	Printed (treating of sciences, arts, or industries)	First.
	Catalogues, newspapers, and periodicals	Do.
	Copy, for elementary schools	Do.
	Pamphlets, volumes, and books for primary schools not above comprehended	Third.
	Bound:	
	Except those in the eighth class	Fourth.
	When bindings contain velvet, silk, mother-of-pearl, ivory, tortoise-shell, or gilt or plated ornaments.	Eighth.
	Maps and globes	First.
	Sheet music	Second.
	Chromos and drawings	Fifth.
	Labels and circulars:	
	Printed or lithographed	Ninth.
	Blank	Fifth.
	Engraved or stamped paper	Do.
	Portfolios	Do.

Tariff of Venezuela, &c.—Continued.

No.	Classification.	Class.
8	**Brass:**	
	Unmanufactured	Third.
	Manufactured (not specified)	Fourth.
	Pencil and pen holders	Fifth.
	Bridle-bits, bells, hinges, stew-pans, saucepans, tacks, spoons, spurs, trays, trumpets, wire, stirrups.	Fourth.
	Buttons, buckles, match-boxes, pins, thimbles	Sixth.
	Scales, balances, steelyards	Third.
9	**Breadstuffs:**	
	Bran, barley (in husk), corn, oats, rice (in grain), rye (in grain), wheat (in grain)	Second.
	Beans, potatoes, rice (ground)	Third.
	Barley (husked or ground), corn-starch, millet, macaroni, vermicelli, peanuts	Fourth.
	Crackers:	
	Sweet	Do.
	Plain	Third.
	Wheat flour	Do.
	Potato, corn, and rye flours	Fourth.
	Barley, bean, vermicelli, and other flours	Second.
10	**Bricks**	
11	**Brooms:**	
	Of vegetable material	Sixth.
	Of hair or bristles	Fifth.
	Brushes:	
	For animals, for floors, of horn or whalebone, carpenters'	Fourth.
	Tooth, hair, clothes, shoe, and other brushes	Fifth.
12	**Candles:**	
	Tallow	Fourth.
	Sperm, paraffine, stearine, or composition	Fifth.
13	**Carriages:**	
	Hearses, with appurtenances	Third.
	Carriages, calashes, omnibusses, phætons, and others not specified	Second.
	Children's perambulators and velocipedes	Fourth.
	Wagons, carts, and wheelbarrows	Second.
	Wheels, coach, carriage, cart, &c	Do.
14	**Cars:** Railroad, steam, horse	First.
15	**Chemicals, &c.:**	
	Acids, stearic, oleic, acetic, nitric, muriatic	Third.
	Acid:	
	Sulphuric	Second.
	Tartaric (in powder)	Fifth.
	Alum (crude), brimstone, carbon (animal), chromate of lead, carbonate of lead, chloride of lime, chalk (in powder), lampblack, mineral or effervescing waters, manganese, orange-flower water.	Third.
	Ammonia (liquid), arsenic, carmine, cubebs, fish-glue, glycerine, gums (not specified), hair-dye, washes and tonics, inks, lozenges (gum), mace, poison (for curing skins), tannin, vanilla.	Fifth.
	Aniseed, benneseed, carroway-seed, bone-black, collodion, cummin-seed, glue (common), gelatine, incense, sulphate of lime (except in toys), marjoram, baking-powder, soap-stone, yeast.	Fourth.
	Colza-seed, potassa (common, calcined, or nitrate), sulphate of copper, soda or barilla (common, calcined, or crystallized).	Third.
	Dye-woods, fustic, Epsom and Glauber salts	Second.
	Herbs (medicinal), ink or toilet powders	Fifth.
	Lavender	Sixth.
	Perfumery, essences and extracts	Fifth.
	Chemicals not specified	Do.
	Drugs and medicines not specified	Do.
16	**Clocks and watches:**	
	Clocks (all kinds), chronometers, hour-glasses	Sixth.
	Watches and cases	Eighth.
	Watch or clock keys:	
	Gold or silver	Sixth.
	Not specified	Third.
	Regulators, springs, hands, and other interior machinery for watches and clocks	Sixth.
17	**Coal**	First.
	A special concession has been granted for importation of coal.	
18	**Copper:**	
	Old, unmanufactured, ore and rivets	Third.
	Boilers, harness buckles, chin straps, stoves, stew pans, sauce-pans, hinges, nails, tacks, padlocks, scales, steelyards, wire.	Fourth.
	Sieves	Fifth.
	Shoe, hat, or clothing buckles	Sixth.
	Manufactured, not specified	Fourth.
19	**Cotton manufactures:**	
	Boat sails	Second.
	Cordage, blue hollands	Third.
	Heavy bands, bruzas, canvas, duck, twine, mats, (1 meter long, 50 centimeters wide), furniture cloths, sails for vessels, lamp wicks, chair bottoms.	Fourth.
	Arabias, white britannia, brown cottons, unbleached osnaburgs, regatta stripes (brown), cotonia (for cots), domestic (unbleached).	Fifth.

Tariff of Venezuela, &c.—Continued.

No.	Classification.	Class.
19	**Cotton manufactures**—Continued.	
	Drill (unbleached), elefanto, linings, white blankets, ginghams, thread (sewing), embroidery or knitting, white hollands, brown Irish cottons, unbleached drillings (white or colored), coarse ginghams, bleached shirting, wide sheeting, sileisa (white or colored), white shirting, savajo (crea-dona), aimpatico (shirting).	
	German cloth (white or colored), knit undershirts, knit bands, gowns (made or cut), knit caps, bombazine (white or colored), bordon (white or colored), colored brillantine, hammock cords, socks, stockings, calicones (colored), knit drawers and pants, carlancanes, table covers, bed spreads, coqui (white or colored), regatta stripes (bleached or colored), cretonas, hammocks, malvinas (colored), cloaks, coverings, damask (white or colored), underskirts, estripe, fustians (made or cut), razete (white or colored), bed quilts, parasols, knit work, cloth for underskirts (embroidered or not), chemisettes (made or cut), table cloths, nainsook, candle wick, towels, doylies, handkerchiefs, umbrellas, colored percales, piqué (white or colored), bustles, poplins, white cottons, colored calicoes, wadding.	Sixth.
	Fine bands, barege, porte monnaies, blondas, borlas, all cotton shirts, children's shirts (cut), crochet covers, zephyr (white or colored), girths, ribbons, gauze (white or colored), hangings, curtains, cravats, cord, corsets, jackets, crespo (colored), shawls, grenadines (white or colored), gloves, holan batista, victoria lawns, garters, insertions, laces, fringes, galloons, pillow slips, mosquito netting, velveteen, muslins and organdies (white or colored), scarfs, passamenteria, tulle crochet work, renque and tarletan (white or colored), strings, suspenders.	Seventh.
	Blouses, linen-bosom shirts, overcoats, children's shirts, capes, collars, petticoats, dotted shawls, holan batista or gauze (made into ruffs, ruches, caps, or other adornments), lazos, tulle (made up), cuffs, men's ready-made clothes, ruches (fine).	Eighth.
	Tafita, mantillas, pants, drawers, shirt-fronts, children's fine shirts	Do.
	Caps, dresses, women's ready-made clothing	Ninth.
20	**Earthen, stone, and china ware:**	
	Tiles, bricks	Second.
	Tobacco pipes, pottery, not specified	Third.
	Flower-pots, porcelain, chinaware, and imitations	Fourth.
	Toys, images, inkstands, paper-weights	Fifth.
21	Fertilizers, guano	First.
22	Fish, salt or smoked, sardines	Third.
23	**Flax, hemp, and jute manufactures:**	
	Hemp	Second.
	Flax, bagging, fishing-tackle	Third.
	Bags, canvas, pack-thread, shoe-thread	Fourth.
	Arabias, checks, domestic, sheeting, bramant (unbleached), Irish linen (unbleached), ticking (unbleached), thread, bramant (bleached), britannias, damask, counterpanes, table-cloths, drill, towels, hammocks, rouen linen, poplins, umbrellas, bleached Irish linen, bleached ticking.	Sixth.
	Braid, belts, curtains, cravats, cord, fancy trimmings, fringes, fustians, girths, gloves, galloons, lace, mosquito-netting, muslins, pillow-cases, petticoats, ribbons, tassels.	Seventh.
	Cloaks, cambric, collars, cuffs, cloths, gauze, handkerchiefs, lawns, night-caps, ruffles, shirts, shirt-bosoms, shawls.	Eighth.
24	**Fruits:**	
	Fresh (not specified), apples, pears, and fresh grapes	Second.
	Dried, or in liquor or sirup, chestnuts, cherries (dried), dates (dried), filberts, olives, raisins, sirups.	Fourth.
25	**Furs, for hats**	Do.
26	**Glass manufactures:**	
	Bottles (common) demijohns	Second.
	Flat, unsilvered	Third.
	Flat, unspecified, alembics, cruets, candlesticks, flower-stands, globes, lamp-chimneys, lamps, lanterns, levels, siphons, manufactured (not specified).	Fourth.
	Alcholometers, areometers, liquid measures, cameras, cupping glasses, mirrors, images, inkstands, paper-weights, retorts, nursing bottles, plain stereoscopes.	Fifth.
	Binoculars and eye-glasses (not specified), barometers, beads, artificial eyes, hydrometers, thermometers, hour glasses, microscopes, jet imitations, spangles, spectacles, and telescopes, not containing gold or silver.	Sixth.
	Binoculars, eye-glasses, spectacles, stereoscopes, and telescopes, gold or silver mounted.	Eighth.
27	**Glucose, importation prohibited.**	
28	**Glue:**	
	Common	Fourth.
	Fish	Fifth.
29	**Gunpowder (imported under special permit):**	
	Gunpowder	Seventh.
	Fuses	Third.
	Dynamite and gun caps	Sixth.
30	**Hair:**	
	Goat-hair	Third.
	Horse-hair and hair for nats	Fourth.
	Bristles	Fifth.
	Human and imitations	Eighth.
31	**Hay**	Second.

Tariff of Venezuela, &c.—Continued.

No.	Classification.	Class.
32	Hides and skins:	
	Untanned and sole leather	Fourth.
	Parchment and imitations	Fifth.
	Tanned and manufactured patent leather and tanned sheep-skins	Sixth.
33	Honey (importation prohibited).	
34	Hops	Fourth.
35	Ice	First.
36	India-rubber manufactures:	
	Pipes, conduits, machinery bands	Fourth.
	Erasers, pen and pencil holders	Fifth.
	Boots, shoes, cloaks, combs, elastic for shoes, manufactured (not specified)	Sixth.
37	Iron and steel manufactures:	
	Machinery for making and distributing gas, for sugar mills and accessories, agriculture, mining, weaving, saw-mills, founderies, and arts and trades (not specified), printing-presses, type and accessories, fish-hooks, fire-engines.	First.
	Bridges, with accessories, for public use or agricultural enterprise, plows, harrows, hoes, axes, shovels, pickaxes, machetas, bill-hooks, pruning-knives, and other farm tools.	Do.
	Iron (unmanufactured), round, square, bar, plate, sheet, and other forms, boat and launch anchors, hoops, pipes, pumps.	Second.
	Iron articles for domestic use, anchors for ships, adzes, anvils, balusters, balconies, boilers, busts, cannon, wire cloth, columns, flower-pots, forges, furniture, fry-pans, hatchets, jacks, kitchen ranges, kettles, mortars, nails, ore, pots, posts, rivets, scales, chains for vessels, iron edifices (in pieces), roofing, steelyards, stew-pans, statues, stoves, sieves, tacks, urns.	Third.
	Iron (manufactured, not specified), awls, augers, bridle bits, bells, bolts, curry-combs, compasses, chisels, helmet straps, drills, files, girandoles, hinges, hammers, locks, lanterns, lamps, levels.	Fourth.
	Meat-covers, pincers, padlocks, spoons, instruments for arts and trades, ordinary knives for fishermen, shoemakers, saddlers, gardeners, tobacconists, hunters, &c., spurs, stirrups, saws, trays, trowels.	Do.
	Frames for glasses, fillings, images, inkstands, jack-knives, pocket-knives and forks, paper-knives, paper-weights, razors, scissors, instruments (surgical, anatomical, dental, mathematical, and other scientific), musical instruments and parts (not specified).	Fifth.
	Iron articles, gilt or plated, buckles, gun-nipples, hairpins, needles, thimbles	Sixth.
	Carbines, muskets, pistols, swords, sabers, sword-blades, guns-locks, gridirons, window-grating, fine hunting knives, poinards.	Seventh.
	Steel:	
	Unmanufactured	Third.
	Manufactured (not specified)	Fourth
	For crinolines, bustles, &c	Sixth.
	Iron wire:	
	Galvanized (unmanufactured)	Second.
	Ungalvanized	Third.
	Steel wire, manufactured (not specified)	Fourth.
	Machinery:	
	(Not specified) weighing more than 1,000 kilograms	Second.
	(Not specified) weighing less than 1,000 kilograms	Third.
	For making effervescing waters	Fourth.
38	Jewelry:	
	Gold and silver, precious stones, watch, jewelry, and card cases	Eighth.
	Imitation jewelry	Sixth.
39	Lamps, chimneys, shades, wicks, globes, lamps	Fourth.
40	Lead manufactures:	
	In pigs, bars, &c., unmanufactured, shot, ball	Third.
	Manufactured (not specified) solder	Fourth.
	Toys	Fifth.
41	Leather manufactures:	
	Harness:	
	For coaches and vehicles, not specified	Second.
	For hearses, carts, wagons, holsters	Third.
	Bags, hat boxes, strings, trunks, measures	Fifth.
	Whips, porte monnaies	Sixth.
	Girths, headstalls, reins, saddles, shot pouches, scabbards, patent leather manufactures.	Seventh.
	Gloves	Eighth.
	Boots and shoes	Ninth.
42	Lime and cement:	
	Cement	First.
	Lime, quick or slacked	Second.
	Sulphate of lime (except in toys)	Fourth.
43	Malt liquors:	
	Beer	Third.
	Condensed beer	Fifth.
44	Medical instruments	Do.
45	Naval stores:	
	Rosin, tar, pitch	Second.
	Turpentine	Third.
	Rosin for musical instruments	Fifth.
46	Oil cake and meal (not classed).	

Tariff of Venezuela, &c.—Continued.

No.	Classification.	Class.
47	**Oils:**	
	Animal:	
	Bone	Third.
	Fish	Fourth.
	Cod-liver	Fifth.
	Mineral, kerosene	Third.
	Vegetable:	
	Sesame, colza, olive	Do.
	Almond, linseed, palm, drying	Fourth.
	Beneseed, castor, perfumed, and others, not specified	Fifth.
48	**Paraffine and wax:**	
	Stearine (unmanufactured), shoemaker's wax	Third.
	Crude paraffine, spermaceti, black, yellow, and vegetable wax	Fourth.
	White wax (pure or unmixed)	Fifth.
	Manufactured wax (except in toys)	Sixth.
49	**Paints:**	
	Common oil, black lead, red lead, chromate of lead, lampblack	Third.
	Ochre	Second.
	Paints, not specified	Fifth.
50	**Paper:**	
	White printing, ungummed	First.
	Cigarette	Second.
	Writing paper, brown, and others, not specified, sand paper	Third.
	Painted wall	Fourth.
	Manufactured, not specified	Fifth.
	Gilt or silvered, stamped in relief or flowered	Sixth.
	Envelopes	Ninth.
51	**Plated ware:** Bells, bridle trimmings, castors, cruets, chandeliers, candle sticks, curb-chains, spoons, ladles, stirrups, spurs, trays, trumpets, iron ware, knives, forks, lamps, veneers, wire.	Sixth.
52	**Provisions:**	
	Fresh meats (not classed).	
	Jerked or dried meats	Second.
	Hams, tongues, smoked, salt or pickled, salted or smoked, not specified	Third.
	Hams in tins, sausages	Fourth.
	Oleomargarine (not classed).	
	Lard and butter	Third.
	Cheese, soap grease	Fourth.
53	**Quicksilver**	Fifth.
54	**Seeds:** Not medicinal (for planting)	First.
55	**Soap:** Common, castile, perfumed	Fifth.
56	**Spirits:**	
	Cane rum (importation prohibited), red Bordeaux wine; all wines except Spanish in pipes, kegs or barrels.	Third.
	All wines except Spanish and Bordeaux in demijohns and bottles	Fourth.
	Liquors (sweet) not specified	Fifth.
	Spanish wine	Sixth.
	Brandy, gin, spirits of wine, and all liquors to 22° Cartier's scale	Seventh.
57	**Starch:** Importation prohibited.	
58	**Sugar:** Sugars and molasses (importation prohibited).	
59	**Tin:**	
	Pure or alloyed, unmanufactured, and tinned basins	Third.
	Manufactured (not specified)	Fourth.
	Eyelets, hooks and eyes	Sixth.
60	**Tobacco:**	
	Chewing (importation prohibited).	
	Cigarette and prepared for cigars	Fourth.
	Leaf and manufactured cigarettes	Seventh.
	Manufactured, not specified	Eighth.
61	**Vegetables:**	
	Pickled in vinegar or prine, beans, potatoes, onions	Third.
	Preserved, condiments, garlic	Fourth.
62	**Wood manufactures:**	
	Sticks for matches (importation prohibited).	
	Prepared for naval construction, hewed pieces of pine, oak, &c., for sawing into boards, &c.	First.
	Common, such as boards, beams and scantling of pine, unplaned and unjoined, boats, launches, shingles, deals, hoops.	Second.
	Sawed, planed or joined, fine for musical instruments and cabinet work, veneers, barrels, pipes or hogsheads, set up or in parts, staves, blinds for doors and windows.	Third.
	Manufactured (not specified) billiard and bagatelle tables with accessories, boxes, chairs, piano stools, carpenters' chests, planes, saddle-trees, furniture (common) of wood, cane or straw.	Fourth.
	Bows for musical instruments, drums, trunks, sashes, moldings, battens	Fifth.
	Furniture, upholstered or of fine woods, such as rosewood, mahogany, walnut, &c., roulette tables with accessories.	Fifth.
	Walking canes	Sixth.
63	**Wool:**	
	Blankets	Fifth.
	Wool, manufactured	Fourth.
	Counterpanes, umbrellas	Sixth.

Tariff of Venezuela, &c.—Continued.

No.	Classification.	Class.
63	**Wool—Continued.**	
	Alpaca, braid, belts, caps, cravats, cassimere, casinet, cambron, cord, damask, epaulettes, fancy trimmings, fringes, gloves, galloons lace, nubias, ribbons, stocks, socks, saddle-cloths, shawls, serge, tassels, table-cloths, undershirts.	Seventh.
	Curtains, hangings, shirts, shawls and table-cloths with silk border or trimmings	Eighth.
	Adornments and clothing for women and children, cloaks, paletots, overcoats, ready-made clothes.	Ninth.
64	Zinc:	
	Unmanufactured and zinc white	Third.
	Wire and manufactured not specified	Fourth.

HAWAIIAN ISLANDS.

Tariff of the Hawaiian Islands.

[Report of Consul-General Putnam.]

Number.	Tariff classification.	Duty.	Equivalent in United States money.
1	Agricultural implements	Free	
2	Animals: Cattle, hogs, horses, mules, sheep, and all other	do	
3	Art works:		
	Prints, &c., on paper	do	
	All other	10 per cent.	
4	Barks and extracts	do	
5	Blacking	do	
6	Bones, hoops, horns, &c	do	
7	Books, maps, and engravings	Free	
8	Brass, and manufactures of	10 per cent.	
9	Breadstuffs: Barley, bread and biscuits, Indian corn, oats, rye, wheat, and flour.	Free	
10	Bricks	do	
11	Brooms and brushes	do	
12	Candles	do	
13	Carriages	10 per cent.	
	Horse-cars	Free	
14	Cars, railroad and steam	do	
15	Chemicals	10 per cent.	
16	Clocks:		
	If without glass front	Free	
	With glass front	10 per cent.	
	Watches	do	
17	Coal	Free	
18	Copper, ore, ingots, bars and sheet	do	
19	Cotton and manufactures	do	
20	Earthen, stone, and china ware	10 per cent.	
21	Fertilizers	Free	
22	Fish	do	
23	Flax, hemp, and jute, and manufactures	do	
24	Fruits, preserved	do	
25	Furs	Free	
26	Glass and manufactures	10 per cent.	
27	Glucose	Free	
28	Glue	do	
29	Gunpowder	10 per cent.	
30	Hair	do	
31	Hay	Free	
32	Hides and skins	do	
33	Honey	do	
34	Hops	do	
35	Ice	do	
36	India-rubber manufactures	10 per cent.	
	Boots and shoes	Free	
37	Iron and steel manufactures	do	
38	Jewelry	10 per cent.	
39	Lamps	do	
40	Lead manufactures	do	
41	Leather manufactures	Free	
42	Lime and cement	do	
43	Malt liquors:		
	Per dozen pints	20 cents	$0 20
	Per dozen quarts	40 cents	40
	In bulk, per gallon	15 cents	15
44	Medical instruments	10 per cent.	
45	Naval stores, rosin, tar, turpentine and pitch	Free	
46	Oil cake and meal	do	
47	Oils, animal, vegetable, and mineral	do	
48	Paraffine and wax	10 per cent.	
49	Paints	do	
50	Paper manufactures	Free	
51	Plated ware	10 per cent.	
52	Provisions, meats, fresh and salt, oleomargarine, lard, butter, and cheese	Free	

Tariff of the Hawaiian Islands—Continued.

Number.	Tariff classification.	Duty.	Equivalent in United States money.
53	Quicksilver	10 per cent	
54	Seeds	Free	
55	Soap	do	
56	Spirits:		
	Alcohol and others of same strength, per gallon	$10	$10 00
	Alcohol for mechanical and scientific purposes, per gallon	50 cents	50
	Brandies, whiskies, &c.:		
	35 to 55 per cent. proof, per gallon	$3	3 00
	Above 55 per cent	Proportionately	
	Wines:		
	Madeira, port, &c., above 18 and below 30 per cent. alcoholic strength, per gallon	$2	2 00
	Champagne, Moselle, Hock:		
	Per dozen quarts	$3	3 00
	Per dozen pints	$1 50	1 50
	Claret, Rhine wine, and other light wines below 18 per cent. alcoholic strength:		
	Per dozen quarts	40 cents	40
	Per dozen pints	20 cents	20
	In bulk, per gallon	15 cents	15
57	Starch	Free	
58	Sugar and molasses	Free	
59	Tin	10 per cent	
60	Tobacco, leaf, cigars, and cigarettes	Free	
61	Vegetables		
62	Wood manufactures (except furniture upholstered or carved and carriages).	Free	
63	Wool	Free	
64	Zinc	10 per cent	

The full tariff of the Hawaiian Islands was printed in Consular Reports No. 26½, p. 550.

ASIA.

CHINA.

Table showing tariff classification and rates of duty of China.

[Prepared by Consul-General Kennedy.]

Number.	Tariff classification.	Tariff rates of duty.	Equivalent in United States money.	Unit.
		t. m. c.*		
1	Agricultural implements:			
	If for sale, 5 per cent. ad valorem.			
	If for private use	Free.		
2	Animals: Cattle, hogs, horses, mules, sheep, and all others.	Free.		
3	Art works, if for sale, 5 per cent. ad valorem.			
4	Bark and extracts:			
	Mangrove bark	0. 0. 3. 0	$0 04	133⅓ pounds avoirdupois.
	Other bark and extracts, 5 per cent. ad valorem.			
5	Blacking, if for sale, 5 per cent. ad valorem.			
6	Bones, hoofs, horns, &c.:			
	Bones:			
	Tiger's	1. 5. 5. 0	2 02	133⅓ pounds.
	Other, 5 per cent. ad valorem.			
	Hoofs, 5 per cent. ad valorem.			
	Horns:			
	Buffalo and cow	0. 2. 5. 0	33	133⅓ pounds.
	Deer	0. 2. 5. 0	33	Do.
	Rhinoceros	2. 0. 0. 0	2 60	Do.
7	Books, maps, engravings, &c.:			
	Engravings, i. e., works of art, if for sale, 5 per cent. ad valorem.			
8	Brass and manufacturers of:			
	Bars	1. 0. 0. 0	1 30	133⅓ pounds.
	Sheets, 5 per cent. ad valorem.			
	Ware	1. 0. 0. 0	1 30	133⅓ pounds.
	Foil	1. 5. 0. 0	1 95	Do.
	Wire	1. 1. 5. 0	1 50	Do.
	Buttons	0. 0. 5. 5	07	Do
9	Breadstuffs:			
	Barley	0. 1. 0. 0	13	Do.
	Bread and biscuits	Free.		
	Indian corn and oats	Free.		
	Rye and wheat	0. 1. 0. 0	13	Do.
	Flour	Free.		
10	Bricks.			
11	Brooms and brushes, if for sale, 5 per cent. ad valorem.			
12	Candles	Free.		
13	Carriages and horse-cars, if for sale, 5 per cent. ad valorem.			
14	Cars (railroad, steam), if for sale, 5 per cent ad valorem.			
15	Chemicals, if for sale, 5 per cent. ad valorem.			
16	Clocks and watches:			
	Clocks, 5 per cent. ad valorem			
	Watches (option)	1. 0. 0. 0	†1 30	
17	Coal	0. 0. 5. 0	07	Ton.
18	Copper:			
	Rods, nails	1. 5. 0. 0	1 95	133⅓ pounds.
	Ore	0. 5. 0. 0	65	Do.
	Ingots, bar	1. 0. 0. 0	1 30	Do.
	Sheet	1. 5. 0. 0	1 95	Do.
19	Cotton	0. 3. 5. 0	46	Do.

* 10 candarins = 1 mace; 10 mace = 1 tael.
† Or 5 per cent. ad valorem.

Table showing tariff classification and rates of duty of China—Continued.

Number.	Tariff classification.	Tariff rates of duty.	Equivalent in United States money.	Unit.
19	Cotton—Continued.			
	Manufactures:			
	Gray, white, plain, and twilled:	t. m. c.		
	Exceeding 34 inches wide and not exceeding 40 yards long.	0. 0. 8. 0	$0 11	Piece.
	Exceeding 34 inches wide and exceeding 40 yards long.	0. 0. 2. 0	03	10 yards.
	Drills and jeans:			
	Not exceeding 30 inches wide and not exceeding 40 yards long.	0. 1. 0. 0	13	Piece.
	Not exceeding 30 inches wide and not exceeding 30 yards long.	0. 0. 7. 5	10	Do.
	T-cloths:			
	Not exceeding 34 inches wide and not exceeding 48 yards long.	0. 0. 8. 0	11	Do.
	Not exceeding 34 inches wide and not exceeding 24 yards long.	0. 0. 4. 0	06	Do.
	Dyed, figured, and plain, not exceeding 36 inches wide and not exceeding 40 yards long.	0. 1. 5. 0	19	Do.
	Fancy, white brocades, and white spotted shirtings, not exceeding 30 inches wide and not exceeding 40 yards long.	0. 1. 0. 0	13	Do.
	Printed chintzes and furnitures, not exceeding 31 inches wide and not exceeding 30 yards long.	0. 0. 7. 0	09	Do.
	Cambrics:			
	Not exceeding 46 inches wide and not exceeding 24 yards long.	0. 0. 7. 0	09	Do.
	Not exdeeding 46 inches wide and not exceeding 12 yards long.	0. 0. 3. 5	04	Do.
	Muslins:			
	Not exceeding 46 inches wide and not exceeding 24 yards long.	0. 0. 7. 5	10	Do.
	Not exceeding 46 inches wide and not exceeding 12 yards long.	0. 0. 3. 5	04	Do.
	Damasks, not exceeding 36 inches wide and not exceeding 40 yards long.	0. 2. 0. 0	26	Do.
	Dimities or quilting, not exceeding 40 inches wide and not exceeding 12 yards long.	0. 0. 6. 5	08	Do.
	Ginghams, not exceeding 28 inches wide and not exceeding 30 yards long.	0. 0. 3. 5	04	Do.
	Handkerchiefs, not exceeding 1 yard square	0. 0. 2. 5	03	Dozen.
	Fustians, not exceeding 35 yards long	0. 2. 0. 0	26	Piece.
	Velveteens, not exceeding 34 yards long	0. 1. 5. 0	20	Do.
	Thread	0. 7. 2. 0	94	133 pounds.
	Yarn	0. 7. 0. 0	91	Do.
20	Earthen, stone, and china ware:			
	Earthenware	0. 0. 5. 0	07	Do.
	Chinaware:			
	Fine	0. 9. 0. 0	1 17	Do.
	Coarse	0. 4. 5. 0	59	Do.
21	Fertilizers, 5 per cent. ad valorem.			
22	Fish:			
	Salt fish	0. 1. 8. 0	23	Do.
	Finned	Free.		
23	Flax, hemp, and jute:			
	Flax, 5 per cent. ad valorem.			
	Hemp	0. 3. 5. 0	46	Do.
	Jute	0. 2. 0. 0	26	Do.
	Manufactures, 5 per cent. ad valorem.			
24	Fruits, preserved	Free.		
25	Furs (skins):			
	Fox, large	0. 1. 5. 0	20	Each.
	Fox, small	0. 0. 7. 5	08	Do.
	Marten	0. 1. 5. 0	20	Do.
	Sea-otter	1. 5. 0. 0	1 95	Do.
	Tiger and leopard	0. 1. 5. 0	20	Do.
	Beaver	.....	.....	Hundred.
	Doe, hare, and rabbit	0. 5. 0. 0	65	Do.
	Squirrel and ermine	0. 5. 0. 0	65	Do.
	Land otter	2. 0. 0. 0	2 60	Do.
	Raccoon	2. 0. 0. 0	2 60	Do.
26	Glass	0. 1. 5. 0	20	Box of 100 square feet.
	Manufactures	Free.		
27	Glucose, 5 per cent. ad valorem.			
28	Glue	0. 1. 5. 0	20	133 pounds.
29	Gunpowder, contraband.			

Table showing tariff classification and rates of duty of China—Continued.

Tariff classification.	Tariff rates of duty.	Equivalent in United States money.	Unit.
Hair:	*t. m. c.*		
Camels'	1. 0. 0. 0	$1 30	133 pounds.
Goats'	0. 1. 8. 0	23	Do.
Horse, 5 per cent. ad valorem.			
Hay	Free.		
Hides and skins:			
Buffalo and cow	0. 5. 0. 0	65	Do.
Rhinoceros	0. 4. 2. 0	55	Do.
Honey	0. 9. 0. 0	1 17	Do.
Hops	Free.		
Ice	Free.		
India-rubber and manufactures:			
Boots	Free.		
Shoes	Free.		
Iron and steel:			
Iron:			
Pigs	0. 0. 7. 5	10	Do.
Sheets, rods, bars	0. 1. 2. 5	16	Do.
Hoops (new)	0. 1. 2. 5	16	Do.
Wire	0. 2. 5. 0	33	Do.
Manufactures, like nails, tacks, rivets, &c., 5 per cent. ad valorem.			
Steel:			
Bars and ingots	0. 2. 5. 0	33	133⅓ pounds.
Manufactures, 5 per cent. ad valorem.			
Jewelry	Free.		
Lamps, 5 per cent. ad valorem.			
Lead:			
Pigs	0. 2. 5. 0	33	Do.
Sheets	0. 5. 5. 0	72	Do.
Manufactures 5 per cent. ad valorem.			
Leather:			
Goat and sheep, 5 per cent. ad valorem.			
Cow	0. 4. 2. 0	55	Do.
Manufactures:			
Boots and shoes	Free.		
Leather articles	1. 5. 0. 0	1 95	
Lime and cement, 5 per cent. ad valorem.			
Malt liquors	Free.		
Medical instruments	Free.		
Naval stores, 5 per cent. ad valorem.			
Rosin, 5 per cent. ad valorem.			
Tar, 5 per cent. ad valorem.			
Turpentine and pitch, 5 per cent. ad valorem.			
Oil cake and meal, not imported.			
Oils:			
Animal, 5 per cent. ad valorem.			
Mineral, 5 per cent. ad valorem.			
Vegetable	0. 3. 0. 0	39	133⅓ pounds.
Paraffine and wax:			
Paraffine, 5 per cent. ad valorem.			
Beeswax	1. 0. 0. 0	39	Do.
Paints, 5 per cent. ad valorem.			
Paper:			
Wall and printing paper:			
If for sale, 5 per cent. ad valorem.			
Otherwise	Free.		
Manufactures, 5 per cent. ad valorem.			
Stationery, generally	Free.		
Plated ware	Free.		
Provisions:			
Hams	0. 5. 5. 0	72	Do.
Meats, fresh, salt	Free.		
Oleomargarine, lard, butter, and cheese	Free.		
Quicksilver	2. 0. 0. 0	2 60	Do.
Seeds	Free.		
Soaps	Free.		
Spirits	Free.		
Starch, 5 per cent. ad valorem.			
Sugar:			
Dutch standard in use:			
White	0. 2. 0. 0	26	Do.
Brown	0. 1. 2. 0	16	Do.
Molasses, 5 per cent. ad valorem.			
Tin:			
Slabs	1. 2. 5. 0	1 63	Do.
Plates	0. 4. 0. 0	52	Do.
Tobacco, leaf cigars and cigarettes	Free.		
Vegetables	Free.		

Table showing tariff classification and rates of duty of China—Continued.

Number.	Tariff classification.	Tariff rates of duty.	Equivalent in United States money.	Unit.
62	Wood:			
	Masts and spars:			
	Hard wood:	*t. m. c.*		
	Not exceeding 40 feet	4. 0. 0. 0	$5 20	Each.
	Not exceeding 60 feet	6. 0. 0. 0	7 80	Do.
	Exceeding 60 feet	10. 0. 0. 0	13 00	Do.
	Soft wood:			
	Not exceeding 40 feet	2. 0. 0. 0	2 60	Do.
	Not exceeding 60 feet	4. 5. 0. 0	5 85	Do.
	Exceeding 60 feet	6. 5. 0. 0	8 45	Do.
	Beams, hard wood, not exceeding 26 feet long and under 12 inches square.	0. 1. 5. 0	20	Do.
	Planks:			
	Hard wood:			
	Not exceeding 24 feet long, 12 inches wide, and 3 inches thick.	3. 5. 0. 0	4 55	Hundred.
	Not exceeding 16 feet long, 12 inches wide, and 3 inches thick.	2. 0. 0. 0	2 60	Do.
	Soft wood	0. 7. 0. 0	91	1,000 square feet.
	Teak	0. 0. 3. 5	05	Cubic feet.
	Camagon	0. 0. 3. 0	04	133 pounds.
	Ebony	0. 1. 5. 0	20	Do.
	Garroo	2. 0. 0. 0	2 60	Do.
	Fragrant	0. 4. 5. 0	59	Do.
	Kraujee, 35 feet long, 1 foot 8 inches wide, 1 foot thick.	0. 8. 0. 0	1 04	Each.
	Laka	0. 1. 4. 5	19	133 pounds.
	Red	0. 1. 1. 5	15	Do.
	Manufactures, 5 per cent. ad valorem.			
63	Wool	0. 3. 5. 0	46	Do.
64	Zinc, 5 per cent. ad valorem.			

NOTE.—The tael (1 ounce silver) is the Haikwan or customs tael, and has been considered as worth $1.30 United States currency; a picul=100 catties=133⅓ pounds avoirdupois.

The full tariff of China was printed in Consular Reports No. 36, p. 384.

COREA.

[Compared by Consul-General Parker.]

No.	Classification.	Duty.
1	Agricultural implements	Free.
2	Animals:	
	Cattle, hogs, horses, mules, sheep, and all others	5 per cent.
3	Art works	20 per cent.
4	Bark and extracts	5 per cent.
5	Blacking	10 per cent.
6	Bones, hoofs, horns, &c	5 per cent.
7	Books, maps, &c	Free.
	Engravings	10 per cent.
8	Brass, and manufactures of	7½ per cent.
9	Breadstuffs:	
	Barley	5 per cent.
	Bread and biscuits	7½ per cent.
	Indian corn	5 per cent.
	Oats	Do.
	Rye	Do.
	Wheat	Do.
	Flour	7½ per cent.
10	Bricks	5 per cent.
11	Brooms and brushes	10 per cent.
12	Candles	7½ per cent.
13	Carriages	20 per cent.
	Horse-cars	7½ per cent.
14	Cars (railroad, steam)	Do.
15	Chemicals	Do.
16	Clocks	10 per cent.
	Gold watches	20 per cent.
	Other watches	10 per cent.
17	Coal	5 per cent.
18	Copper, ore, ingots, bar, and sheet	Do.
19	Cotton	Do.
	Manufactures	7½ per cent.
20	Earthenware	Do.
	Common:	
	Stone and china ware	Do.
	Superior	10 per cent.
21	Fertilizers	5 per cent.
22	Fish:	
	Fresh	Do.
	Dried	7½ per cent.
23	Flax, hemp, and jute	5 per cent.
	Manufactures	7½ per cent.
24	Fruits:	
	Fresh	5 per cent.
	Preserved	7½ per cent.
25	Furs	20 per cent.
26	Glass:	
	Window	7½ per cent.
	Plate	10 per cent.
	Manufactures	Do.
27	Glucose	7½ per cent.
28	Glue	5 per cent.
29	Gunpowder, under special license	20 per cent.
30	Human hair	10 per cent.
	Other kinds	7½ per cent.
31	Hay	5 per cent.
32	Hides and skins:	
	Raw	Do.
	Tanned	7½ per cent.
33	Honey	5 per cent.
34	Hops	7½ per cent.
35	Ice	5 per cent.
36	India-rubber manufactures	10 per cent.
37	Iron (pig)	5 per cent.
	Steel	7½ per cent.
	Manufactures	Do.
38	Jewelry	20 per cent.
39	Lamps	7½ per cent.
40	Lead:	
	Pig	5 per cent.
	Manufactures	7½ per cent.

No.	Classification.	Duty.
41	Leather	7½ per cent.
	Manufactures	10 per cent.
42	Lime	5 per cent.
	Cement	7½ per cent.
43	Malt liquors	10 per cent.
44	Medical instruments	Free.
45	Naval stores:	
	Rosin	7½ per cent.
	Tar	5 per cent.
	Turpentine	7½ per cent.
	Pitch	5 per cent.
46	Oil cake and meal	Do.
47	Oils:	
	Animal	7½ per cent.
	Mineral	5 per cent.
	Vegetable	7½ per cent.
48	Paraffine and wax	Do.
49	Paints	Do.
50	Paper, common	5 per cent.
	Fancy, wall, &c	10 per cent.
	Manufactures	Do.
51	Plated ware	Do.
52	Provisions:	
	Meats:	
	Fresh	5 per cent.
	Salt	7½ per cent.
	Oleomargarine	Do.
	Lard	Do.
	Butter	Do.
	Cheese	Do.
53	Quicksilver	Do.
54	Seeds	5 per cent.
55	Soap:	
	Common	Do.
	Superior	10 per cent.
56	Spirits	20 per cent.
57	Starch	7½ per cent.
58	Sugar	Do.
	Molasses	Do.
59	Tin	Do.
60	Tobacco, leaf, cigars, and cigarettes	20 per cent.
61	Vegetables	5 per cent.
62	Wood:	
	Hard	10 per cent.
	Soft	7½ per cent.
	Manufactures	Do.
63	Wool	5 per cent.
64	Zinc	Do.

NOTE.—All import duties in Corea are ad valorem.

The full tariff of Corea was printed in Consular Reports No. 40, p. 341.

JAPAN.

The full tariff of Japan was printed in Consular Reports No. 22, p. 636.

SIAM.

Consul-General Jacob O. Child writes from Bangkok:

The treaty of 1856 between the United States and Siam regulates the tariff and fixes it at a uniform rate of 3 per cent. on the market value of goods, payable either in kind or in money, at the option of the importer.

INDIA.

Tariff of British India on products and manufactures of the United States.

[Prepared by Consul Bonham.]

No.	Tariff classification.	Duty in Indian currency.		Equivalent in United States money.	
		Unit.	*Duty.*	*Unit.*	*Duty.*
1	Agricultural implements		Free.		
2	Animals, cattle, hogs, horses, mules, sheep, and all others		Free.		
3	Art works		Free.		
4	Bark and extracts		Free.		
5	Blacking		Free.		
6	Bones, hoofs, horns, &c.		Free.		
7	Books, maps, engravings, &c.		Free.		
8	Brass, and manufactures of		Free.		
9	Breadstuffs, barley, bread and biscuits, Indian corn, oats, rye, wheat, flour		Free.		
10	Bricks				
11	Brooms and brushes		Free.		
12	Candles		Free.		
13	Carriages and horse-cars		Free.		
14	Cars (railroad, steam)		Free.		
15	Chemicals		Free.		
16	Clocks and watches		Free.		
17	Coal		Free.		
18	Copper, ore, ingots, bar, sheet		Free.		
19	Cotton, and manufactures		Free.		
20	Earthen, stone, and China ware		Free.		
21	Fertilizers		Free.		
22	Fish		Free.		
23	Flax, hemp, and jute, and manufactures		Free.		
24	Fruits, preserved		Free.		
25	Furs		Free.		
26	Glass manufactures		Free.		
27	Glucose		Free.		
28	Glue		Free.		
29	Gunpowder, 10 per cent. ad valorem.				
30	Hair		Free.		
31	Hay		Free.		
32	Hides and skins		Free.		
33	Honey		Free.		
34	Hops		Free.		
35	Ice		Free.		
36	India-rubber manufactures		Free.		
37	Iron and steel, and manufactures		Free.		
38	Jewelry		Free.		
39	Lamps		Free.		
40	Lead, and manufactures		Free.		
41	Leather, and manufactures		Free.		
42	Lime and cement		Free.		
43	Malt liquor (see note)	Imp. gal.	1 anna	Imp. gall.	$2 39
44	Medical instruments		Free		
45	Naval stores—rosin, tar, turpentine, and pitch		Free.		
46	Oil cake and meal		Free.		
47	Oils, animal, minerals, and vegetable		Free.		
48	Paraffine and wax		Free.		
49	Paints		Free.		
50	Paper and manufactures		Free.		
51	Plated ware		Free.		
52	Provisions, meats, fresh, salt, oleomargarine, lard, butter, cheese		Free.		
53	Quicksilver		Free.		
54	Seeds		Free.		
55	Soaps		Free.		
56	Spirits (see note)	Imp. gal.		Imp. gall.	1 43
57	Starch		Free.		
58	Sugar, molasses		Free.		
59	Tin		Free.		
60	Tobacco (leaf, cigars, and cigarette)		Free.		
61	Vegetables		Free.		
62	Wood, and manufactures		Free.		
63	Wool		Free.		
64	Zinc		Free.		

NOTE—Liquors. Per imperial gallon, or six quart bottles. Ale, beer, and porter, except when condensed or concentrated, 1 anna. Cider and other fermented liquors, 1 anna. Liquors, 4 rupees. Spirit intended to be used exclusively in arts or manufactures or in chemistry, and which has been rendered effectually and permanently unfit for human consumption, ad valorem, 5 per cent. Spirits, when used in drugs, medicines, or chemicals, in a proportion less than 20 per cent. of spirit of the strength of London proof, ad valorem, 5 per cent. Spirit, when so used in a proportion of 20 per cent. or upwards; spirit, perfumed, in wood, or in bottles containing more than 4 ounces; spirit, other sorts, 4 rupees, and the duty to be increased as the strength exceeds London proof. Wines, champagnes, and all other sparkling wines, 2 rupees, 8 anna. All other sorts of wines, 1 rupee.

CEYLON.

The full tariff of Ceylon was printed in Consular Reports No. 72, p. 494.

AUSTRALASIA.

NEW SOUTH WALES.

Rates of duties charged on the following articles imported into the Colony of New South Wales under the existing tariff laws of the colony, in English and American currency.

[Prepared by Consul Griffin.]

Number.	Names of articles.	Duty in English currency.	Equivalent in American currency.
1	Agricultural implements	Free	
2	Animals: cattle, hogs, horses, mules, sheep, and all others	Free	
3	Art	Free	
4	Barks and extracts	Free	
5	Blacking	Free	
6	Bones, hoofs, horns, &c	Free	
7	Books, maps, and engravings	Free	
8	Brass manufactures	Free	
9	Breadstuffs	Free	
	Bread	Free	
	Biscuits	1*d.* per pound	$0 02
	Indian corn	Free	
	Oats, rye, wheat, flour	Free	
10	Bricks		
11	Brooms and brushes	Free	
12	Candles	1*d.* per pound	02
13	Carriages and horse-cars	Free	
14	Railway cars	Free	
15	Chemicals	Free	
16	Clocks and watches	Free	
17	Coal	Free	
18	Copper, ore, ingots, and bar	Free	
19	Cotton	Free	
20	Earth, stone, and china ware	Free	
21	Fertilizers	Free	
22	Fish, dried, preserved, or salt	1*d.* per pound	02
23	Flax, hemp, or jute	£2 per ton	9 73
	Manufactured rope	£2 per ton	9 73
24	Fruits:		
	Bottled, quarts	2*s.* per dozen	48
	Bottled, pints	1*s.* per dozen	24
	Dried	2*d.* per pound	04
	Tinned	2*d.* per pound	04
	Jams and jellies	2*d.* per pound	04
25	Furs	Free	
26	Glass manufactures	Free	
27	Glucose	Free	
28	Glue	Free	
29	Gunpowder	1*d.* per pound	02
30	Hair	Free	
31	Hay	Free	
32	Hides and skins	Free	
33	Honey	2*d* per pound	04
34	Hops	Free	
35	Ice	Free	
36	India-rubber manufactures	Free	
37	Iron and steel:		
	Galvanized iron bars, bundles, sheets, or corrugated	£2 per ton	9 73
	Galvanized manufactures	3*s.* per cwt	73
	Iron wire	£1 per ton	4 86
38	Jewelry	Free	
39	Lamps	Free	
40	Lead	Free	
41	Leather	Free	
42	Lime and cement	2*s.* per bushel	48
43	Malt liquors:		
	Beer, ale, porter, spruce, or other beer, in wood or casks	6*d.* per gallon	12
	In bottles	9*d.* per dozen	18
44	Medical instruments	Free	

Rates of duties charged, &c.—Continued.

Number.	Names of articles.	Duty in English currency.	Equivalent in American currency.
45	Naval stores:		
	Rosin	Free	
	Tar	Free	
	Turpentine	1s. per gallon	$0 24
46	Oil cake and meal	Free	
47	Oils:		
	Kerosene	6d. per gallon	12
	Animal, black	Free	
	Cocoanut and sperm oil	Free	
48	Paraffine wax	Free	
49	Paints	£2 per ton	9 73
50	Paper:		
	Writing and fancy	1s. per pound	24
	Brown and wrapping-paper	3s. 4d. per cwt.	81
51	Plated ware	Free	
52	Provisions—meats, fresh, salt; oleomargarine, lard, butter, and cheese.	Free	
53	Quicksilver	Free	
54	Seed	Free	
55	Soap	Free	
56	Spirits:		
	On all kinds of spirits imported into the colony, the strength of which can be ascertained by Sykes's hydrometer.	12s. per gallon	2 92
	On all spirits and spirituous compounds imported into the colony.	12s. per gallon	2 92
	Wines:		
	Sparkling	10s. per gallon	2 43
	Still wine	5s. per gallon	1 21
	Methylated spirits	2s. per gallon	48
57	Starch	1d. per pound	2
58	Sugar:		
	Raw	5s. per cwt.	1 21
	Refined	6s. 8d. per cwt.	1 62
	Molasses and treacle	3s. 4d. per cwt.	81
59	Tin	Free	
60	Tobacco:		
	Manufactured, and snuff	2s. per pound	48
	Unmanufactured	1s. per pound	24
	Cigars	5s. per pound	1 21
	Cigarettes	5s. per pound	1 21
	Sheep-wash	3d. per pound	06
61	Vegetables	Free	
62	Wood:		
	Doors, each, and sashes, each	1s. each	24
	Lumber, dressed	2s. per 100 feet	48
	Undressed	1s. per 100 feet	24
63	Wool	Free	
	Woolpacks	3d. each	06

Duties collected on the following articles imported into New South Wales in accordance with the Government proposals submitted in the new tariff bill for the increase of certain duties of customs.

Number.	Names of articles.	Duties in English currency.	Equivalent in American currency.
1	Agricultural implements	5 per cent. ad valorem	
2	Animals: cattle, horses, hogs, mules, and sheep	Free	
3	Art work	5 per cent. ad valorem	
4	Bark and extracts	Free	
5	Blacking	5 per cent. ad valorem	
6	Bones, hoofs, and horns	Free	
7	Books, maps, &c	Free	
8	Brass manufactures: screws, bolt-rings	2s. per cwt	$0 48
9	Breadstuff:		
	Barley, pearl Scotch, prepared and patented	1d. per pound	02
	Barley, plain	Free	
	Oatmeal	2s. 6d. per cwt.	60
	Biscuits and crackers	2d. per pound	04
	Indian corn, wheat, and rye		
10	Bricks		

Duties collected, &c.—Continued.

Number.	Names of articles.	Duty in English currency.	Equivalent in American currency.
11	Brooms and brushes	5 per cent. ad valorem	
12	Candles	1½*d.* per pound	$0 03
13	Carriages and horse-cars	5 per cent. ad valorem	
14	Cars	5 per cent. ad valorem	
15	Chemicals	5 per cent. ad valorem	
16	Clocks and watches	5 per cent. ad valorem	
17	Coal	5 per cent. ad valorem	
18	Copper ingots, bars, and sheets	Free	
19	Cotton:		
	Raw	Free	
	Manufactured	5 per cent. ad valorem	
20	Earthenware	5 per cent	
21	Fertilizers	Free	
22	Fish, dried or preserved	1*d.* per pound	02
23	Flax, hemp, and jute	Free	
	Manufactured	£2 per ton	9 73
24	Fruits:		
	Bottled quarts	2*s.* per dozen	48
	Bottled pints	1*s.* per dozen	24
25	Furs	Free	
26	Glass, manufactured	5 per cent. ad valorem	
27	Glucose (solid)	5*s.* per cwt	1 21
28	Glue	5 per cent. ad valorem	
29	Gunpowder:		
	Sporting	3*d.* per pound	06
	Blasting	1*d.* per pound	02
30	Hair	5 per cent	
31	Hay	Free	
32	Hides and skins	Free	
33	Honey	1*d.* per pound	02
34	Hops	6*d.* per pound	12
35	Ice	5 per cent. ad valorem	
36	India-rubber goods	5 per cent. ad valorem	
37	Iron:		
	Scrap and old	Free	
	Bar, rod, plate, sheet, bundle, and hoop	10*s.* per ton	2 43
	Galvanized manufactures	£3 per ton	14 60
	Iron chains, not otherwise exempted	£1 per ton	4 86
	Galvanized, in bars, bundles, or sheets, or corrugated	£2 per ton	9 73
	Iron or steel wire	£1 per ton	4 86
	Wire netting	£1 10*s.* per ton	7 29
38	Jewelry	5 per cent. ad valorem	
39	Lamps	5 per cent. ad valorem	
40	Lead:		
	Pig	£1 per ton	4 86
	Sheet, roll, or pipe	£2 per ton	9 73
	Manufactured	5 per cent. ad valorem	
41	Leather and manufactures	5 per cent. ad valorem	
42	Lime	5 per cent. ad valorem	
	Cement	2*s.* per barrel	48
43	Malt liquors:		
	Beer, ale, porter, spruce, &c.:		
	In wood	6*d.* per gallon	12
	In bottles	9*d.* per gallon	18
	For 6 reputed quarts or 12 reputed pints	9*d.* per gallon	18
44	Medical instruments	5 per cent. ad valorem	
45	Naval stores:		
	Rosin and tar	5 per cent. ad valorem	
	Turpentine	1*s.* per gallon	24
46	Oil cakes and meal	5 per cent. ad valorem	
	Oat meal	2*s.* 6*d.* per cwt	60
47	Oils:		
	Oils, except black cocoanut and sperm	6*d.* per gallon	12
	Kerosene	6*d.* per gallon	12
	Oils in bottles, except essential oils:		
	Reputed quarts	1*s.* 6*d.* per dozen	36
	Reputed pints	9*d.* per dozen	18
	Reputed half-pints and smaller sizes	6*d.* per dozen	12
	Mineral	1*s.* per pound	24
	Vegetable	1*s.* per pound	24
48	Wax:		
	Japan	1*s.* per pound	24
	Paraffine	1*s.* per pound	24
49	Paints and colors ground in oil	£3 per ton	14 60
50	Paper:		
	Brown	3*s.* 4*d.*	81
	Advertising matter, circulars, posters, and notices, printed or lithographed, for distribution or for sale.	1*d.* per pound	02

Duties collected, &c.—Continued.

Number.	Names of articles.	Duty in English currency.	Equivalent in American currency.
51	Plated ware	5 per cent. ad valorem	
52	Provisions:		
	Meat, poultry, game, potted or preserved, in tins or jars	1*d.* per pound	$0 02
	Meat extract	2*d.* per pound	04
	Oleomargarine and lard	1*d.* per pound	02
	Butter	1*d.* per pound	02
	Cheese	2*d.* per pound	04
53	Quicksilver	5 per cent. ad valorem	
54	Seeds	Free	
55	Soap, toilet, scented and other than scented	1*d.* per pound	02
56	Spirits:		
	On all kinds of spirits imported into the colony, the strength of which can be ascertained by Sykes's hydrometer. No allowance beyond 16.5 shall be made for the under-proof of any spirits of a less hydrometer strength than 16.5 underproof.	12*s.* per proof gallon	2 92
	On all spirits and spirituous compounds imported into the colony, the strength of which cannot be ascertained by Sykes's hydrometer.	12*s.* per liquid gallon	2 92
	Case spirits: Reputed contents of two, three, or four gallons shall be charged— Two gallons and under, as two gallons. Over two gallons and not exceeding three, as three gallons. Over three gallons and not exceeding four, as four gallons.		
	Methylated spirits	2*s.* per gallon	48
	Wine:		
	Sparkling, for 6 reputed quarts or 12 reputed pints.	10*s.* per gallon	2 43
	Other kinds	5*s.* per gallon	1 21
	Other kinds, for 6 reputed quarts or 12 reputed pints.	5*s.* per gallon	1 21
57	Starch:	1½*d.* per pound	03
	Starch powder	1½*d.* per pound	03
58	Sugar and molasses	5 per cent. ad valorem	
	Sugar candy	2*d.* per pound	04
59	Tin:		
	Ingots	Free	
	Sheet	5 per cent. ad valorem	
	Manufactures	5 per cent. ad valorem	
60	Tobacco:		
	Delivered from ship's side or from a customs bond for home consumption, manufactured, unmanufactured, and snuff.	3*s.* per pound	73
	Unmanufactured, entered to be manufactured in the colony at the time of removal from a customs bond or from an importing ship, to any licensed tobacco manufactory, for manufacturing purposes only, into tobacco, cigars, or cigarettes.	1*s.* per pound	24
	Sheepwash	3*d.* per pound	06
61	Vegetables, preserved (not otherwise charged), salted, or in brine, in salt water, preserved mushrooms, and preserved tomatoes.	1*d.* per pound	02
62	Timber:		
	Dressed	3*s.* per 100 superficial feet	73
	Rough and undressed	1*s.* 6*d.* per 100 superficial feet.	36
	Palings	1*s.* per 100 feet	24
	Laths	Per 1,000	18
	Pickets, dressed	As dressed timber	
	Shingles	Per 1,000	24
	Wood manufactures	5 per cent. ad valorem	
63	Wool and woolen manufactures	5 per cent. ad valorem	
	Wool packs	3*s.* 4*d.* per cwt.	81
64	Zinc:		
	Plain sheet	2*s.* per cwt	48
	Perforated or manufactured	3*d.* per cwt	06

NOTE.—The full tariff of New South Wales was printed in Consular Reports No. 51, p. 677.

VICTORIA.

Victorian tariff duties.

[Prepared by Consul-General Morgan.]

Number.	Tariff classification.	Duty.	Equivalent in United States money.
1	Agricultural implements	20 per cent. ad valorem.	$0 06
	Reapers and binders	Free	
2	Animals:		
	Cows, oxen, heifers, bulls, steers, calves over six months old (except working bullocks in teams.	5*s.* each	1 20
	Pigs	2*s.* each	48
	Horses, mares, geldings, colts, and fillies not in saddle or harness.	5*s.* each	1 20
	Mules (as horses)	5*s.* each	1 20
	Sheep, whether rams, ewes, wethers, or lambs	6*d.* each	12
3	Art works	Free	
4	Bark	Free	
5	Blacking	20 per cent. ad valorem.	
6	Bones, hoofs, horns, &c	Free	
7	Books (printed), engravings, &c	Free	
8	Brass and manufactures of	25 per cent. ad valorem.	
9	Breadstuffs:		
	Barley	2*s.* per cental	48
	Barley, pearl	5*s.* per cental	1 20
	Biscuits:		
	Fancy	2*d.* per pound	04
	Ship and old	Free	
	Maize	1*s.* per cental	24
	Oats	2*s.* per cental	48
	Rye	1*s.* per cental	24
	Wheat	2*s.* per cental	48
	Flour	2*s.* per cental	48
10	Bricks:		
	Air	25 per cent. ad valorem.	
	Clay	Free	
	Fire	20*s.* per 1,000	4 86
11	Brooms and brushes, except artists' brushes	25 per cent. ad valorem.	
12	Candles	2*d.* per pound	04
13	Carriages and horse-cars, including second-hand:		
	All carriages and carts and wagons without springs, and spring carts and spring drays with two wheels.	20 per cent. ad valorem.	
	Tilburies, dog-carts, gigs, Boston chaises, and other two-wheeled vehicles on springs or thorough braces.	£10 each	48 66
	Express-wagons and wagons for carrying goods, and single or double-seated wagons, and four-wheeled buggies with tops.	£20 each	97 32
	Omnibuses and coaches for carrying mails or passengers.	£40 each	194 64
	Barouches, broughams, mail-phaetons, drags, and other carriages not otherwise enumerated.	£50 each	243 30
	NOTE.—Any separate parts of carriages not specially enumerated as dutiable or free are chargeable with such duty as the commissioner may determine.		
14	Cars (railroad and tram) not specially enumerated beyond the above.		
15	Chemicals:		
	Acid:		
	Acetic	3*d.* per pound	06
	Carbolic	6*d.* per gallon	12
	Carbolic, pure	6*d.* per pound	12
	Oxalic	2*d.* per pound	04
	Picric	3*d.* per pound	06
	Aloes	12*s.* per cwt	2 91

Victorian tariff duties—Continued.

Number.	Tariff classification.	Duty.	Equivalent in United States money.
15	Chemicals—Continued.		
	Ammonia:		
	Carbonate of	2*d.* per pound	$ 04
	Liquid	2*d.* per pound	4
	Cannabis Indica	1*d.* per pound	2
	Cocculus Indicus	1*s.* 6*d.* per cwt	36
	Fabaamara	1*s.* 6*d.* per cwt	36
	Gelatine	6*d.* per pound	12
	Glycerine:		
	Pure	3*d.* per pound	6
	Crude	1*d.* per pound	2
	Grains of Paradise, or Guinea grains	2*s.* per cwt	48
	Morphia	1*s.* 6*d.* per ounce	36
	Nitrate of silver	6*d.* per ounce	12
	Nux vomica	1*s.* 6*d.* per cwt	36
	Potassium:		
	Iodide of	10*d.* per pound	20
	Bromide of	3*d.* per pound	6
	Quassia	40*s.* per ton	9 60
	Strychnine	1*s.* per ounce	24
	Dynamite	4*d.* per pound	8
	Acids, undescribed	5*s.* per cwt	1 20
	Alkali:		
	Potash	Free	
	Soda ash	Free	
	Soda, bicarbonate	Free	
	Soda, caustic	Free	
	Soda crystals	40*s.* per ton	9 60
	Alum	Free	
	Arsenic	Free	
	Asphalt	Free	
	Borax	Free	
	Nitrate of soda	Free	
	Silicate of soda	Free	
	Dyes	Free	
	Essences and essential oils	Free	
16	Clocks and watches	20 per cent. ad valorem	
	Watchmakers' materials	Free	
17	Coal, coke, charcoal, and kerosene shale	Free	
18	Copper:		
	Ore, sheet, wire, &c	Free	
	Bronzed copper pipes	25 per cent. ad valorem	
	Copper ware not otherwise enumerated	25 per cent. ad valorem	
19	Cotton, piece goods, all cotton manufactures, such as counterpanes, &c., cotton-waste, cotton wick, linen piece goods, linen manufactures, such as table-linen, towels, &c.	Free	
20	Earthen, stone, and china ware:		
	China ware and porcelain	2*s.* 6*d.* per cubic foot measurement.	60
	Earthenware	1*s.* 4*d.* per cubic foot measurement.	32
	Stoneware	20 per cent. ad valorem	
21	Fertilizers, manures	Free	
22	Fish:		
	Preserved, not salted or dried, or preserved in lime, and fish potted.	2*d.* per pound	4
	Fresh, salted, and shell	Free	
23	Flax, Pharmium, New Zealand, and yarn	Free	
	Hemp	Free	
	Hemp cordage	11*s.* 3*d.* per cwt	2 71
	Jute	Free	
	Jute piece goods	½*d.* to ¼*d.* per yard	½ to 1
24	Fruit:		
	Fresh	9*d.* per bushel	18
	Bottled, dried, and preserved	2*d.* per pound	4
25	Furs:		
	Dressed	25 per cent. ad valorem	
	Undressed	Free	
26	Glass:		
	Plate and window	Free	
	Bottles	6*d.* per doz., 3*d.* per doz.	6 to 12
	Shades and globes, and all other glassware, cut and engraved.	2*s.* 6*d.* per cubic foot	60
	Chimneys, and all other glassware, not cut	1*s.* per cubic foot	24

Victorian tariff duties—Continued.

Number.	Tariff classification.	Duty.	Equivalent in United States money.
27	Glucose	3*s.* per cwt.	$0 26
28	Glue	2*d.* per pound	4
29	Gunpowder:		
	Fuse	1½*s.* per coil of 24 feet or less.	3
	Lithofractem	1*d.* per pound	2
	Blasting powder	1*d.* per pound	2
	Sporting	3*d.* per pound	6
	Fine	Free	
30	Hair:		
	Curled	2*d.* per pound	4
	Seating	Free	
31	Hay and chaff	Free	
32	Hides and skins, of all kinds, with and without wool, and undescribed.	Free	
33	Honey	2*d.* per pound	4
34	Hops	6*d.* per pound	12
35	Ice. (Not mentioned in tariff.)		
36	India-rubber goods	Free	
37	Iron and steel:		
	Bar and rod, galvanized cordage, galvanized sheet, hoop and pig iron, iron plate and wire, scrap, and sheet iron and tanks.	Free	
	All other iron manufactures and galvanized ware	25 per cent. ad valorem	
	Steel and cordage	Free	
38	Jewelry (except cameos and precious stones unset), viz:		
	Rings of gold, finished or unfinished, but without cameos or precious stones therein	4*s.* per dwt., troy	96
	All other jewelry of gold, finished or unfinished, but without cameos or precious stones set therein.	3*s.* per dwt., troy	72
	Chains of gold, unfinished (except machine-made chains for fringes).	1*s.* per dwt., troy	24
39	Lamps and lamp ware, gasalier and chandeliers	25 per cent. ad valorem	
40	Lead, sheet and piping	2*s.* 6*d.* per cwt	60
41	Leather:		
	Calf and kid	7½ per cent. ad valorem	
	Patent, and colored fancy leathers	10 per cent. ad valorem	
	All other leathers (except crust or rough tanned hog skins, calf and goat, and shumach-tanned sheep.	20 per cent. ad valorem	
	Leather cut into shapes, including elastic-side uppers and Wellington legs, clogs, and pattens	20 per cent. ad valorem	
	Boots and shoes, present English sizes to be the standard (except children's Nos. 0 to 3), viz:		
	Men's No. 6 and upwards	33*s.* per dozen pairs	8 03
	Youths', Nos. 2 to 5	21*s.* per dozen pairs	5 11
	Boys', Nos. 7 to 1	17*s.* 6*d.* per dozen pairs	4 26
	Women's, No. 3 and upwards	16*s.* 6*d.* per dozen pairs	4 74
	Girls', Nos. 11 to 2	16*s.* per dozen pairs	3 88
	Girls', Nos. 7 to 10	11*s.* 6*d.* per dozen pairs	2 79
	Children's, Nos. 4 to 6, and slippers	6*s.* per dozen pairs	1 44
	Women's lasting and stuff boots	13*s.* per dozen pairs	3 16
	Slippers, men's, women's, and children's, from No. 7 and upwards.	9*s.* per dozen pairs	2 19
42	Lime and cement	Free	
43	Malt liquors:*		
	Ale, porter, spruce, and other beer, cider, and perry, for 6 reputed quart bottles or 12 reputed pint bottles.	9*d.* per gallon	18
	Same, in wood or bottles, containing imperial quart or pint, respectively.	9*d.* per gallon	18
44	Medical instruments	Free	
45	Naval stores, pitch, tar, resin, and turpentine	Free	
46	Oil cake and meal	Free	
47	Oils:		
	Animal and vegetable, other than black, cocoanut, cod, or palm.	6*d.* per gallon, in bulk	12
	Mineral, refined, of which the point of ignition is above 80° Fahr., colza, and olive, animal and vegetable, in bulk.	6*d.* per gallon	12
	Oils, including castor or cod liver, when refined or for medicinal purposes, in bottles of a quart or less than a quart:		
	Quarts	2*s.* per dozen	48
	Pints	1*s.* per dozen	24
	Half pints and smaller sizes	6*d.* per dozen	12

Duty on bottles charged also.

Victorian tariff duties—Continued.

Number.	Tariff classification.	Duty.	Equivalent in United States money.
48	Paraffine and wax:		
	Wax	Free	
49	Paints:		
	Ground in oil	40s. per ton	$9 72
	Mixed, ready for use	80s. per ton	19 45
50	Paper:		
	Note, letter, writing, fancy, and blotting, with cut edges.	2d. per pound	4
	Uncut, blotting, surface, drawing, and other papers (except printing and writing, in original wrappers and uncut edges, as it leaves the mill, paper hangings, cardboard, and millboard.)	4s. per cwt	96
	Paper bags	10s. per cwt	2 43
	Paper and cardboard boxes (not containing goods ordinarily imported therein).	25 per cent. ad valorem	
51	Plated ware, plated and mixed metal ware (except door-handles, locks, shaft-tips, stump and finger joints, and slot-irons used in carriage building, harness mountings, and plated hames).	20 per cent. ad valorem	
52	Provisions:		
	Meats:		
	Fresh or frozen	Free	
	Preserved (not salted or dried or preserved in brine) and potted meats.	2d. per pint or pound, or reputed package of that quantity or weight, and so on in proportion.	04
	Salted beef and pork	5s. per cwt	1 20
	Hams	2d. per pound	04
	Butter and cheese and honey	2d. per pound	04
	Lard	Free	
	Oleomargarine		
53	Quicksilver	Free	
54	Seeds:		
	Canary	10 per cent. ad valorem	
	Clover, grass, and undescribed	Free	
55	Soap:		
	Perfumed and toilet	4d. per pound	08
	Other	2d. per pound	04
56	Spirits:		
	Spirits, cordials, liqueurs, or strong waters, sweetened or mixed with any article so that the degree of strength cannot be ascertained by Sykes' hydrometer (including all alcohol diluted or undiluted, with water or other menstruum, and containing in solution any essence, essential oil, ether, or other flavoring or other substance, whether of natural or artificial origin).	12s. per gallon	2 91
	Perfumed	24s. per gallon	5 83
	Methylated	1s. per liquid gallon	24
	Spirits mixed with essential oils, so as to be unfit for human consumption, to be used in the manufacture of soap, are exempt from duty, provided the mixing is performed in the presence of an officer of customs, other sorts, such as brandy, rum, gin, whisky, cordials, and bitters, spirits of wine, and other undescribed.	12s. per gallon	2 91
57	Starch	2d. per pound	04
58	Sugar and molasses (except unrefined molasses)	3s. per cwt	72
59	Tin:		
	Block, foil, ore, blacksand tin-plate	Free	
	Tin-ware	25 per cent. ad valorem	
60	Tobacco (except sheepwash, including tobacco soaked, on the landing thereof from the importing ship, or on delivery from the warehouse, in turpentine, oil, or other fluid, in the presence of some officer of customs, so as to render it unfit and useless for human consumption):		
	Manufactured	3s. per pound	72
	Unmanufactured	1s. per pound	24
	Cigars and cigarettes	6s. per pound	1 44
	Snuff	3s. per pound	72

Victorian tariff duties—Continued.

Number.	Tariff classification.	Duty.	Equivalent in United States money.
61	Vegetables:		
	Fresh	Free	
	Preserved	2*d.* per pound	$0 04
	Salted	5*s.* per cwt	1 20
62	Wood, woodenware	25 per cent. ad valorem	
63	Wool, greasy, washed, scoured, and Angora	Free	
64	Zinc:		
	Ingots	Free	
	Perforated	25 per cent. ad valorem	
	Sheet	Free	

NEW ZEALAND.

Tariff duties of New Zealand.

No.	Description of merchandise.	Duty.
1	Agricultural implements	Free.
2	Animals: Cattle, hogs, horses, mules, sheep, and all others	Free.
3	Art works	15 per cent. ad valorem.
4	Bark:	
	Extracts of bark	15 per cent. ad valorem.
5	Blacking	15 per cent. ad valorem.
6	Bones, hoofs, horns, &c	Free.
7	Books (reading):	
	Gift books, such as Shakespeare's every day gem-book and birthday books.	15 per cent. ad valorem.
	Maps	Free.
	Engravings, &c	15 per cent. ad valorem.
8	Brass in pigs, bars, or sheets	Free.
	Brass manufactures	15 per cent. ad valorem.
9	Breadstuffs:	
	Barley	9*d.* per 100 pounds.
	Indian corn	9*d.* per 100 pounds.
	Oats	9*d.* per 100 pounds.
	Rye	9*d.* per 100 pounds.
	Wheat	9*d.* per 100 pounds.
	Flour	1*s.* per 100 pounds.
	Bread (if ship-biscuit)	3*s.* per cwt.
	Biscuits:	
	Plain and unsweetened	3*s.* per cwt.
	Fancy	2*d.* per pound.
	Flour	1*s.* per 100 pounds.
10	Bricks (not known).	
11	Brooms and brushes	15 per cent. ad valorem.
12	Candles:	
	Tallow	½*d.* per pound.
	Other sorts	1½*d.* per pound.
13	Carriages and horse-cars	15 per cent. ad valorem.
14	Cars (railroad steam)	Free.
15	Chemicals	15 per cent. ad valorem.
16	Clocks and watches	15 per cent. ad valorem.
17	Coal	Free.
18	Copper, ore, ingots, bar, and sheet	Free.
19	Cotton-waste	Free.
	Cotton manufactures	15 per cent. ad valorem.
20	Earthen and china ware	Free.
21	Fertilizers	Free.
22	Fish	2*s.* per cwt.
23	Flax, hemp, and jute	Free.
	Manufactures	15 per cent. ad valorem.
24	Glass:	
	Common window	2*s.* per 100 feet.
	Plate, polished, colored	15 per cent. ad valorem.
	Bent carriage	15 per cent. ad valorem.
	Manufactures	15 per cent. ad valorem.
25	Fruits:	
	In sirup	15 per cent. ad valorem.
	Bottled	1*s.* per dozen.
	Dried	2*d.* per pound.
	American, in tins	15 per cent. ad valorem.
26	Furs	15 per cent. ad valorem.
27	Glucose	½*d.* per pound.
28	Glue	Free.
29	Gunpowder	6*d.* per pound.
30	Hair	Free.
31	Hay	Free.
32	Hides and skins	Free.
33	Honey	Free.
34	Hoops:	
	If mast hoops	Free.
	If iron cask hoops	15 per cent. ad valorem.
35	Ice	Free.
36	India-rubber manufactures	15 per cent. ad valorem.

Tariff duties of New Zealand—Continued.

No.	Description of merchandise.	Duty.
37	Iron and steel, common black-sheet, corrugated, and plain galvanized	Free.
	Ironmongery	15 per cent. ad valorem.
38	Jewelry	15 per cent. ad valorem.
39	Lamps:	
	Carriage	Free.
	Other kinds	15 per cent. ad valorem.
40	Lead:	
	Pig, bar, and sheet	Free.
	Piping	3s 6d. per cwt.
	Manufactures	15 per cent. ad valorem.
41	Leather:	
	Sole	½d. per pound.
	Other sorts	1d. per pound.
	Manufactures	15 per cent. a valorem.
42	Lime	Free.
	Cement	1s. per barrel.
43	Malt liquors (beer, &c.) in bottle, the gallon, or for 6 reputed quart bottles.	1s. 6d. per gallon.
44	Medical instruments	Free.
45	Naval stores:	
	Rosin	Free.
	Tar	Free.
	Spirits of turpentine	6d. per gallon.
	Pitch	Free.
46	Oil cake and meal	Free.
47	Oil, animal, mineral, vegetable	6d. per gallon.
48	Paraffine and wax	1d. per pound.
49	Paint	2s. per cwt.
50	Paper:	
	Printing	Free.
	Writing, the size of demi and above, with uncut edges, as it leaves the mill.	Free.
	Bags	5s. per cwt.
	Wrapping (brown)	2s. per cwt.
	Drawing	15 per cent. ad valorem.
	Tin-foil	2s. 6d. per cwt.
51	Plated ware	15 per cent. ad valorem.
52	Provisions:	
	Meats:	
	Fresh, potted, and preserved	15 per cent. ad valorem.
	Salt	Free.
	Oleomargarine (not known.)	
	Lard	Free.
	Butter	Free.
	Cheese	Free.
53	Quicksilver	Free.
54	Seeds	Free.
55	Soap:	
	Common	3s. 6d. per cwt.
	Fancy	25 per cent. ad valorem.
56	Spirits	14s. 6d. per gallon.
57	Starch	3s. per cwt.
58	Sugar and molasses	½d. per pound.
59	Tin	Free.
	Tinware	15 per cent. ad valorem.
60	Tobacco:	
	Leaf	3s. 6d. per pound.
	Cigars	6d. per pound.
	Cigarettes	6d per pound.
61	Vegetables:	
	Dried	Free.
	Preserved	15 per cent. ad valorem.
62	Wood:	
	If dressed shelving	4s. per 100 feet sap.
	Manufactures	15 per cent. ad valorem.
63	Wool (manufactures)	15 per cent. ad valorem.
64	Zinc:	
	Plain sheet	Free.
	Piping and roll	1s. per cwt.
	Manufactures	15 per cent. ad valorem.

ARRANGEMENT.

The foregoing tariffs were sent to the Department in reply to a special circular calling for the duties imposed upon sixty-four different classes of commodities, and may easily be referred to, as, with two exceptions, the marginal numbering and the arrangement of commodities are uniform and on the following plan:

1. Agricultural implements.
2. Animals.
3. Art works.
4. Bark and extracts.
5. Blacking.
6. Bones, hoofs, and horns.
7. Books.
8. Brass and manufactures of brass.
9. Breadstuffs.
10. Bricks.
11. Brooms.
12. Candles.
13. Carriages.
14. Cars.
15. Chemicals.
16. Clocks, watches, and their parts.
17. Coal.
18. Copper and manufactures of copper.
19. Cotton and manufactures of cotton.
20. Earthen, stone, and china ware.
21. Fertilizers.
22. Fish.
23. Flax, hemp, and jute, and manufactures of these fibers.
24. Fruits.
25. Furs.
26. Glass and manufactures of glass.
27. Glucose.
28. Glue.
29. Gunpowder.
30. Hair.
31. Hay.
32. Hides and skins.
33. Honey.
34. Hops.
35. Ice.
36. India-rubber and manufactures of rubber.
37. Iron and steel and manufactures of iron.
38. Jewelry.
39. Lamps.
40. Lead and manufactures of lead.
41. Leather and manufactures of leather.
42. Lime and cement.
43. Malt liquors.
44. Medical instruments.
45. Naval stores.
46. Oil cake and meal.
47. Oils, animal, vegetable, and mineral.
48. Paraffine and wax.
49. Paints and colors.
50. Paper and manufactures of paper.
51. Plated ware.
52. Provisions.
53. Quicksilver.
54. Seeds.
55. Soap.
56. Spirits.
57. Starch.
58. Sugar and molasses.
59. Tin and manufactures of tin.
60. Tobacco and manufactures of tobacco.
61. Vegetables.
62. Wood and its manufactures.
63. Wool and manufactures of wool.
64. Zinc and manufactures of zinc.

Item No. 10 should have read bricks, but the i was not dotted in the circular, and most of the consuls reported the duties on bucks. This will account for the omission of that item in most tables and the variety in others.

REPORTS

FROM THE

CONSULS OF THE UNITED STATES.

No. 74.—FEBRUARY, 1887.

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1887.

CONSULAR AND DIPLOMATIC OFFICERS.

Names.	Places.	Page.
Birch, John M	Nagasaki	466
Bissinger, Erhard	Beirut	423
Black, William J	Nuremberg	484
Brent, H. M	Callao	523
Carroll, Philip	Palermo	527
Catlin, George L	Zurich	431
Chambers, James C	Batoum	400
Cowles, J. P	Foochow	467
Crouch, Henry C	Milan	526
Crowell, William S	Amoy	469
Dawson, W	Messina	529
Denby, Charles	Peking	458, 508
Dufais, F. F	Havre	528
Eckstein, D	Amsterdam	517, 533
Goodwin, George B	Annaberg	487
Greathouse, C. R	Kanagawa	461
Hanna, Bayless W	Buenos Ayres	511
Hastings, Frank P	Honolulu	472
Hawes, John B	Reichenberg	504, 507
Hughes, Joseph B	Birmingham	509, 527
Jernigan, T. R	Osaka and Hiogo	464
Knight, W. J	Cape Town	473
Mason, Frank H	Marseilles	492
Mason, Joseph T	Dresden	503
Millar, Samuel Rolfe	Leipsic	480
Porch, J. W	Mexico	529
Raine, F	Berlin	499
Robertson, G. D	Verviers and Liege	492
Roosevelt, George W	Bordeaux	489
Ryder, H. B	Copenhagen	520
Seymour, Charles	Canton	510
Smith, James Henry	Mayence	371
Staub, Peter	St. Galle	457
Sutton, Warner P	Matamoros	518
Underwood, Francis H	Glasgow	479
Viosca, James	La Paz	515
Visser, John	Rotterdam	497
Winchester, Boyd	Berne	426

CONTENTS.

Page.

AFRICA:
Transvaal gold fields 473
Situation and means of access, 474—Opportunities for miner and capitalist, 474—Mining laws, 474—Opportunities for American enterprise, 475.
AUSTRIA-HUNGARY:
American sleighs and hand-sleds 507
Textile industry of Bohemia 504
BELGIUM:
Manufacture of white lead 492
Process first employed, 492—Dutch method, 493—Precautions necessary, 493—German method, 494—French method, 494—English method, 494—Early production, 494—Marketing, 495—Raw materials, 495—Wages, 496—American white lead, 497—Customs duties, 497.
CHINA:
Decline in value of silver and commerce of China 508
Iron and steel implements in 509
Kerosene in 510
EGYPT:
Petroleum fields 423
DENMARK:
Turnip and beet fodder for milch cows 520
FORMOSA:
Camphor monopoly 469
Camphor production 467
Importance of, in our trade with China 458
FRANCE:
Apple crop of 1886 528
Wine harvest of 1886 489
Prejudicial causes, 489—Phylloxera and mildew, 489—Quality of wine, 490—Importation of foreign wines, 490—Wine from dregs and dried grapes, 490—American vines, 492.
GERMANY:
Factory operatives of 371
Industrial situation, 371—Youthful laborers, 372—Apprentices, 372—Illegal employment of children, 373—Laws on employment of children, 374—Female labor, 375—Wages, 377—Strikes, 378—Rates of wages, 379—Pay-day, discharge of workmen, hours of labor, 380—Day and night labor, 386—Country factories, 388—Effect of labor upon health, 390—Dwellings, 392—Beneficial arrangements, 392—What does it cost a workingman with a family to live, 396.
Glass industry 484
Manufacture of white lead 490
Source of raw material, 499—History, 500—Austrian method, 501—Production and marketing, 501—Adulteration, 502—Prices, 503—In Dresden, 503.
Overcrowding of the Leipsic poor 480
Definitions, 481—Size of dwellings, 481—Rents, 482—Density of dwellings, 482.
Oyster-breeding 487
HAWAIIAN ISLANDS:
Opium in 472
ITALY:
Silk crop of 1886 526
Silk manufactures in France 526
Sumac culture in Sicily 527
JAPAN:
Camphor production 461

Page.

JAVA:
Sugar interests 517
MEXICO:
Coinage of 529
Industrial situation of Lower California 515
Sugar-growers of Tabasco 518
NETHERLANDS:
Manufacture of white lead 497
Dutch cattle in United States 533
NEW ZEALAND:
Wool and timber exports 532
PERU:
Tariff of 523
RUSSIA:
Petroleum trade 400
Baku, 400—The petroleum fields, 401—Historical notes, 401—Drilling wells, 402—Cost of wells and number, 403—Depth of wells, 403—Flow of wells, 404—Handling the crude oil, 406—Price of crude oil, 406—Test wells, or experimental borings, 407—The refineries, 408—Methods of refining and product, 409—Test, 409—Quality of oil, 410—Marketing oil, 410—Prospects of the industry, 412—Counterfeiting American marks, 413—Railway from Baku to Batoum, 414—Pipe-line, 414—present situation, 416—Export to Austria-Hungary, 316—Volume of petroleum business, 418—Novorossisk and Ilsky, 420—Crimea, 422.
SOUTH AMERICA:
Relative importance of states 511
Population and internal improvements, 512—Imports and exports, 513—Finances, 513.
SWITZERLAND:
Forestry in 426
Pasture rights, 427—Federal administration, 427—Financial administration, 428—Planting of trees, 428—Schools of forestry, 429—Forest protection, 429—Lumber trade, 429—Dealers in seeds, &c., 430.
A brief retrospect, 431—Zurich's forest system, 432—Forest trees of Switzerland, 442—Rates of forest growth, 443—At high altitudes, 445—Forest areas and yield, 445—Yield in Canton Zurich, 447—Rapid increase of yield, 447—Cost of working and maintenance, 447—Sources of wood and lumber supply, 449—Rates of supply and demand, 450—Private forests, 450—Tools used in cultivation, 451—Transport of wood, 451—Protective constructions, 452—Damages by frosts and storms, 452—Organization of the forestry service, 453—Instruction in forestry, 454—Dealers in seeds and plants, 454—Books on forestry, 455.
Swiss federal forestry law 455
Canton of St. Galle 457
TURKEY:
Agricultural implements and machinery in Adana 529
UNITED KINGDOM:
American cattle and dressed beef in Glasgow 476
New cattle wharves, 476—Chill-rooms, 476—Live cattle, 477—Glasgow markets, 477—Superiority of American cattle, 478—Imports of meat, 478—Frozen mutton, 479.
Emigration from, in 1886 529
Nail and chain industry of Birmingham 527

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 74.—FEBRUARY, 1887.

FACTORY OPERATIVES OF GERMANY.

REPORT OF COMMERCIAL AGENT SMITH, OF MAYENCE.

The factories of the German Empire are all subject to visitation by governmental inspectors, whose duty it is to see that all the regulations of the Empire respecting factories in their relation to factory operatives are duly observed by the parties concerned. This is a huge undertaking, as can be well imagined, and when it is considered that for the entire Empire there are but forty-eight inspectors, or but about one to each million of inhabitants, it is evident that the labor imposed is too great for thorough performance; but a superficial idea of the manner in which the factories are conducted, and of the general condition of the working people, and of the state of trade can be obtained, and many abuses doubtless checked and removed or hindered. Annually they report the results of their investigations to the Imperial Government at Berlin, by which their reports are given to the public. Their combined report for 1885 is now at hand, and as various points of interest are treated of in it, upon which the consular corps has been called upon in the past by the Department to make report, and as at the present time there seems to be no subject in which the general public takes more interest than in the labor question, I present a number of gleanings from its pages. Hitherto each year each inspector's report has been published in full in one general volume containing the reports of all, making a work of about 1000 pages, but this year it was thought best that the reports should be condensed at Berlin, and a much smaller publication be issued, giving in a briefer compass the general results of the investigations and labors of 1885. A volume of about one-quarter the size of the former ones has consequently been laid before the public.

INDUSTRIAL SITUATION.

The book opens with a brief résumé of the general state of the industrial and labor market in 1885, which is said to have been about what

it was in 1884; that is, that there was abundant opportunity for work at depressed prices; that while with some the year may have been more unfavorable than its predecessor, with others it was more satisfactory, making the general result pretty much the same.

There was throughout the Empire an increase of factories as well as of the number of workmen employed, though the number of workmen did not increase in relative proportion to the increase of factories, due to the fact that industries are striving all the time to supplant manual labor as much as possible with machinery.

This increased use of machinery exerts, too, a prejudicial effect upon the smaller establishments, which are pressed thereby more and more to the wall, and upon the handworkers also, especially such as shoemakers, who behold their work taken right out of their hands by it.

The unfavorable position in which the farming classes are placed worked also to the disadvantage of general trade.

Prices have been sinking and profits for several years declining, but the workingmen have not been affected thereby everywhere in their full sharpness, and in many cases have experienced no injurious effects whatever from them. Some factories have been kept running without making any net profit, some been compelled to limit production and reduce the hours of labor of their men or discharge them, while some have endeavored to secure their employés the same wages as before, notwithstanding the unfavorable business situation. From the great body of reports it may be said of the empire at large that notwithstanding a stillness of trade and depressed prices the workingmen's wages have remained at the old figures.

YOUTHFUL LABORERS.

There was no material change over the preceding year in the number employed. Wherever an increase took place it was, for the most part, in the same degree that new factories and adult workmen increased, but in some cases young persons were employed on account of the low wages received, while in others their employment was given up as unsatisfactory. The unfavorable industrial situation also led in some districts to the discharge of young persons; this was especially the case at the mines. In proportion to population, the greatest number of young persons seem to be employed in Baden, where, in 1885, there were 9,413 young persons employed, or about 11 per cent. of the whole number employed in the entire Empire, of which 1,734 were children from twelve to fourteen years old. This was an increase over 1884, and the number has almost reached that of 1878. The number of young persons fourteen to sixteen years old employed was the highest yet observed, while the number of those from twelve to fourteen, although greater last year, was below the figures of 1874. In 1885, 18½ per cent. of the young persons employed were children from twelve to fourteen years old, while in 1884 it was 17 per cent., and 32 in 1874. There were no statistics taken in 1885 for the whole empire; that will be done this year, the census occurring every two years. The reason why so many are employed in Baden is because there are many industries there, more so than in other parts of Germany, in which children can be used, especially in the sugar factories.

APPRENTICES.

The general complaint is made that apprentices are not taken by the factories as much as they once were. In Bremen there are less appren-

tices and less young persons to be met with in industrial establishments than formerly, due to the prostrated state of ship-building and the industries connected therewith. At and around Dresden there is a disposition on the part of the machine factories to take more apprentices, and there is more and more being done for the education of apprentices in the industrial schools. At Leipsic quite the contrary picture is shown. There was no increase in number of apprentices employed, and no adoption of means for instructing them. The Leipsic manufacturers do not seem yet to recognize the importance of educating youths to be skillful workmen, although much complaint is made of the lack of fine workmen. In 4 piano-forte factories there, employing 527 persons, there was not a boy from fourteen to sixteen found among them. The same was true of 6 fur factories, employing 209 persons; 6 book-binderies, employing 223; 10 beer breweries, employing 528; 18 mill-works, employing 642, and 19 machine-shops, employing 1,545. Concerning the upper part of the Bavarian Palatinate and Regensburg, as well as Upper Franconia, it is said that there is an increased indisposition to take apprentices on contracts with fixed conditions, which the general use of machinery encourages; but in the porcelain and stone ware, machine and paint brush factories, and in the glass works and lithographic work-shops of the Middle Franconian art establishments they are taken. In Upper Bavaria it is said that the use of apprentices in certain branches of industry is taking on a character which does not permit them to well learn their business during the apprenticeship period. Taken in large numbers, they are given a one-sided mechanical or industrial education, put to work on machinery, and as soon as they become old enough to expect and demand more wages are discharged and green hands taken in their places. In some places workingmen's unions forbid the employment of more than a fixed number of apprentices. Thus the German bookbinders' union forbids the employment of more than two apprentices where less than 6 men are employed, and but one apprentice for each additional 5 workmen. The factory inspector for Munich says, however, that this rule is not observed, as he found out that at Munich out of 50 bookbinderies there only 25 adhered to the rule, the others employing many more than the rule prescribes. Among industrial establishments it is the smaller which mostly use apprentices, on account of their cheapness. In one foundry the same inspector says he found the disproportion of 61 apprentices from fourteen to seventeen or eighteen years of age to 148 adult workmen. From Schwarzburg-Rudolstadt a similar complaint is made, that many manufacturers work almost entirely with apprentices, and thus sin in a twofold manner, by educating boys up to be workmen in a particular branch and then providing no work for men.

ILLEGAL EMPLOYMENT OF CHILDREN.

The employment of young persons and children of both sexes is said, in the majority of reports, to be done in a proper way, because pretty well watched by the inspectors and police; but the complaint is made that in some districts the police are not active enough in seeing that the regulations of the Empire govering the employment of young persons are carried out. It is difficult to make the factories strictly enforce the regulations of the Government, and much violation of them is practiced. They are better regarded, but it is very hard, the report says, to say to what extent observance of the regulations for the protection of youthful laborers has become fuller. In some factories employers pay more atten-

tion to the regulations, while the great number of fines levied for nonconformity to them show that they are very much violated.

Ignorance of the regulations, or indifference to them, or press of work, cause violations. Some wilfully violate them, and endeavor to deceive the factory inspectors in the matter. The greater part of the violations had respect to the labor books and cards of the young people and the hanging up in conspicuous places of lists of young persons employed and their hours of labor and the like, but fines also had to be more or less imposed for non-observance of the paragraphs of the regulations relating to hours of labor, resting pauses, and employment of children under twelve years of age. Many cases occur where the fines imposed run up to 600 marks ($150). Parents often claim children to be older than they really are. Oftentimes they like to have their children at work with them in the factories, because in this way they are not only kept out of mischief, but the meager family income receives a slight increase. Where the father and mother both work away from home, they seek every opportunity to slip the children into the factories, even unknown to the owners and managers.

In Bavaria the length of time a child has to attend school is fixed at seven years, so that at thirteen or thirteen and a half years of age he is free. The working people, therefore, who have to be away from home do not know what to do with their children, whom the factories will not accept because the law does not permit them to work more than six hours a day until they are fourteen years old. In various branches of industry, such as the making of cigars, porcelain, glass, brick, &c., complaint is made of irregularities in the employment of children. The inspector of Schwarzburg-Sondershausen reports that in a porcelain factory children from twelve to fourteen years old had been employed in an increased degree, and that, what is worse, the children were taking work home with them for the porpose of having younger brothers and sisters assist them at night. School tasks had to be, of course, neglected, of which the teachers not only made loud complaint, but said that the work, the cleaning up of unburnt porcelain, as they breathe in a lot of dust, is very injurious to their health. The wages they got for this neglect of books and injury to health amounted to but a few pennies. The inspector of the Zwickau district says that children and young persons are at times met with, often in large numbers, who for slight wages by the hour are used for placing bricks in and taking them out of the baking ovens, and that this occupation is very injurious to them on account of the high furnace heat to which they are subjected. Children are very much used for slight wages in the cigar factories of Meissen and glassworks of Leipsic-Liegnitz.

In what is known as house industry—making articles at home—there is no control exercised over the employment of children and hardly could well be. It is held to be absolutely necessary for parents to this work to have the co-operation of their children to gain a small income. In the large factories the regulations of the Empire regarding the employment of children are better observed than in the smaller ones. The manufacturers, however, affirm that the regulations are too exacting and hard on them.

LAWS ON EMPLOYMENT OF CHILDREN.

The regulations governing the employment of young persons and children in the German Empire are in brief as follows: Children under twelve years of age cannot be employed, and those under fourteen are

not to labor more than six hours a day. Children who have not been to school the required length of time can be used in the factories only when three hours a day of school instruction are guaranteed them. Young persons from fourteen to sixteen years old are not to labor more than ten hours a day; they cannot begin work before 5.30 a. m., nor continue at it later than 8.30 p. m., and must be given regular resting pauses: this to be for children half an hour; for young persons of twelve to fourteen, one hour at midday, as well as at least half an hour in the forenoon and half an hour in the afternoon. No work is to be undertaken during the pauses. They must be allowed all Sundays and holidays. No child is to be taken who has not a labor-card, bearing his name, date of birth, religion, name of parents or guardian, and arrangements stated for receiving school instruction, which card is to be held by his employer, shown to the police whenever requested, and given up when the employment ceases. Before taking any young person into his employ the manufacturer has to give the police notice of his intention to do so, in writing, naming the factory, the day on which the child or young person is to commence work, the length of time he is to work, and the pauses he is to enjoy, as well as the character of the work on which he is to be put. In every factory a list has to be hung up in a conspicuous place of the young persons employed, with the commencement and termination of their periods of labor and the pauses for rest to which they are entitled, as well as the regulations governing employment. The Bundesrath can forbid the employment of young persons at work which is injurious to health, or permit it with certain conditions; the Bundesrath can make exceptions from a strict observance of the regulations as to hours of work in the case of spinning-mills and factories which are run without letting the fires go down, or which on account of their character have regular day and night work, as well as with respect to such factories as cannot divide their work up into regular periods of similar length, or of such a nature that they can be run only at certain seasons of the year, but in no case is the duration of time employed to exceed thirty-six hours for children and sixty for young persons a week; in spinning-mills sixty-six hours. These exceptions the Bundesrath is to lay before the Reichstag. The regulations of the Empire governing the employment of young persons in rolling-mills, glass-works, spinning-mills, and coal mines I omit.

FEMALE LABOR.

There was no material change in the number of women employed in the factories. In some districts there was an increase in the number employed, in others a falling off. From the upper part of the Bavarian Palatinate, Regensburg, and Franconia the report is that there is a greater tendency manifested to employ women, not always on account of the smaller wages they receive, but because they are easier to manage than men. In this district there are six factories employing only women; one making silk thread, one reeling thread, one making boot-tops, one pearl factory, one wire factory, and one match factory, while in the porcelain and stone ware factories visited one-fourth to one-half were female laborers; in the paper and gold-paper factories up to two-thirds; in the factories for colored papers, one-third; in the brush factories, one-third to three-fourths; and in the lead-pencil factories up to two-fifths of the whole number of persons employed were women. Of 430 factories visited in this district 226 employed female labor. The greatest number of women are to be met with in the mechanical weaving-mills, where, with few exceptions, they far outnumber the men employed; also in the

spinning-mills, they amount to one-half; in the gold-wire factories two-thirds to five-sevenths; in the Nuremberg art establishments one-half to five-sevenths of the entire number of persons employed.

The regulations of the Empire concerning the employment of women are said to be better observed than those relating to the employment of youthful laborers. In the coal-pressing and match factories of Potsdam to Frankfort-on-the-Oder are women employed; a dangerous and dirty work, which the inspector for that district thinks they ought not to be allowed to engage in. He says:

I found, by a night inspection of a coal-pressing factory in winter, two girls between the ages of sixteen and eighteen, but slightly clad for wintry weather, in a half-open shed, through which the icy wind blew, setting up pressed coal, a work which they regularly and continuously performed alternately with other females the whole winter through. Although the inhumanity of the thing moved me, I could not legally interfere, but could only obtain by friendly representations a partial relief of the half-benumbed creatures.

He says that the women in the sugar factories of his district are well paid and lightly taxed, except when they have to wash and cap the roots and take part in the loading and unloading of wagons with them. The capping of the beets he thinks a very dirty and unhealthy work for women, but they have always had it to do, and male labor would be so expensive that the beet-sugar industry would be jeopardized if men had to do it. In other respects the women look fresh and healthy. In the iron industries and metal factories of this district, as well as in the brick-yard and at the glass furnaces, there was a decreased employment of women or an accommodation of work to their strength.

In the Leipsic district, on the other hand, the report is that the manner in which women are used to carry wet, heavy stones in the brick-yards, as well as the way in which they are employed in the lime-kilns, is blameworthy.

The women who do this sort of work are old women mostly, by whom other, or at least remunerative, work is not to be got. Women are said to be employed in sorting rags in the paper factories of the Arnsberg district, which is said to be very injurious to health on account of the dust raised. The girls of the Minden-Muenster district employed in the spinning-mills are said to be injured by the great warmth of the rooms in which they work and long hours of labor, as well as by poor food. In the sugar factories, printing offices, paper and doll factories, &c., and also in the textile factories, women have to work very much at night; otherwise the employment of women at night is an exception. The reports do not speak favorably of the employment of women at night, and say that in certain cases it could well be avoided. More frequently done than night-work is the working of extra hours by women and girls, particularly in those branches of industry which have a busy and a dull season. The women like this kind of work on account of the increased wages it brings them, and only stop to think of its injurious consequences when they must work away into the night.

No especial complaints are made of the injurious effects of factory work upon women and girls; on the contrary, it is claimed that elderly and delicate women, for whom other labor is too severe, seek work in the factories. It is said not to be so injurious to the body as farm labor.

Working in company with men is much done, and is not easy to remedy, but is said not to be so bad for the morals as a common way to and from work. On the subject of morals little is said. The inspector of the Dusseldorf district reports that in a sugar factory in his district where 19 girls were employed 11 became pregnant in a year.

From Meissen the report is that the assurance of support to working women at the time of confinement under the recent law of the Empire providing for the assistance of working people during sickness has led to an increase of illegitimate births; and from Gotha the report is that the same provisions of law lead women and girls employed in house industries to seek employment in factories, where they become pregnant.

Women are placed but little under the superintendence of women, and this is done only in factories where women exclusively are employed. The attempt to put females under the control of their own sex has failed here and there, because the female superintendents have showed themselves lacking in the necessary energy and requisite impartiality.

Where married women are employed opportunity is given them in many factories through long pauses, especially at midday, to attend to their household duties. There is, however, an increased indisposition said to be shown to the use of married women, because of their inability to work uninterruptedly.

There is but little night sleeping done by women and girls in factories. Their places of rest are mostly away from the factories. Places of shelter for female factory operatives have been erected in certain of the German cities, where very plain lodgings are given for slight rents. They are said to be pretty well patronized, and to answer moderate demands.

The chief objection to the employment of women and girls in the factories is that it incapacitates them for marriage and housework. They become vain and wild.

WAGES.

Wages are pretty much the same as in 1884. Here and there, by reason of commercial depression, reductions of wages took place, but not in the same degree that profits declined, and much more have wages in many districts, notwithstanding a general sinkage in the price of all commodities, kept their old basis, and in a number of instances even risen. The inspector for the Leipsic district gives the following as the wages paid in his district in certain branches per week (converted into United States money):

Branch of industry.	Adults.		Young persons.	
	Males.	Females.	Males.	Females.
Industries affecting stone and earth	$3 23	$1 61	$1 54	.....
Metal working	3 52	1 87½	1 33	.....
Machines, instruments, implements, &c	3 87	1 68	1 42	1 30
Chemicals	3 45	.....	1 38	.....
Heating and lighting stuffs	3 47	.....	1 30	.....
Textiles	3 45	1 71	1 54	1 14
Paper and leather	3 49	1 62	1 49	1 19
Woods and carvings	3 21	.....	1 47	.....
Foods	3 40	1 61	1 40	1 26
Clothing	3 20	1 71	1 38	1 30
Polygraphical works	4 13	1 85	1 54	1 38

And then says:

Labor movements in favor of workingmen have occurred during the past year in certain works, particularly in a note-printing office, in a machine factory, and at the city gas-works of Leipsic. If the wages of last year be compared with those of two to eight years before an advance not immaterial will be noticed to prevail as follows:

In a foundry near Leipsic the lowest wage of the molders rose from 14 to 15 marks ($3.33 to $3.57), the highest from 28.70 to 31 marks ($6.83 to $7.37), the average wages

of joiners from 20 to 21.48 marks ($4.76 to $5.11), that of locksmiths from 15.60 to 19.20 marks ($3.71 to $4.56). In an iron foundry near Leipsic combined with a machine factory the average wages of the smiths rose from 21 to 23.34 marks ($4.99 to $5.55), of the locksmiths from 21.90 to 24.90 marks ($5.21 to $5.92), of the molders from 23.10 to 25.80 marks ($5.49 to $6.14), and of the grinders from 19.80 to 21.06 marks ($4.71 to $5.01). In a machine factory of the province the increase was 18 to 21 marks ($4.28 to $4.99), with the locksmiths, turners, and smiths, and 21 to 24 marks ($4.99 to $5.71) among the molders. In a spinning mill the increase of wages among the spinners was 23.56 to 24.90 marks ($5.60 to $5.92), among the feeders and girls 9.07 to 9.93 marks ($2.15 to $2.36). In a second spinning-mill in the province a like rise was noted. In a glove factory the wages of kélton-arbeiter and cutters rose from 12 to 15 marks ($2.85 to $3.57), of the sewing and work-preparing girls from 7 to 8.50 marks ($1.66 to $2.02).

In a chair factory the increase for chair-makers was from 12 to 14 marks ($2.85 to $3.33). In a large mill near Leipsic the wages of the stone-polishers rose from 20.20 to 22.90 marks ($4.80 to $5.45), of the under millers from 21 to 25 marks ($4.99 to $5.95), and of the mill workmen from 19.60 to 21.90 marks ($4.66 to $5.21). In the city gas-works of Leipsic the wages have almost all risen, so that those of a number of persons, for instance, have gone from 18 to 21.60 marks ($4.28 to $5.14), and of others from 16.80 to 21 marks ($3.99 to $4.99). Very considerable increases in wages have taken place in various polygraphical works; also among the stone-masons, carpenters, and common laborers, especially in Leipsic and its immediate neighborhood. The weekly wages of stone-masons, carpenters, and common laborers, about six years ago, were 17.30, 17.30, and 12.80 marks, respectively ($4.11 and $3.04); last year they were 22.40, 22.40, and 16 marks ($5.33 and $3.80). However, when a view is taken of the present state of the entire industrial situation and of the much-observed overproduction, it cannot be expected that any general material and especially permanent improvement in wages should take place; on the contrary, one will see in considering the competitive capacity of certain establishments that the highest point has been reached, and that in some reductions even will probably occur. Everywhere the industrial is forced to sell cheaper, and seeks, consequently, when a reduction of wages is not possible, to displace the skilled workman with machinery which can be run by a common laborer without any special training. Either the revolutions of the machines are increased or the machines themselves enlarged, in order to produce more with the same amount of help, or decrease the force of employés. In a printing office, for instance, a new rotary lightning press has been put up, which, with 7 men, turns off so much work that 40 workers could be dispensed with.

STRIKES.

Quite a number of strikes occurred for higher wages. In the iron foundry of a machine factory in the Leipsic district, after the introduction of altered and more serviceable appliances, the wages of a molder employed on a model of a kalenderwand were reduced for piece work from 15.60 to 12.48 marks ($3.71 to $2.97), which the man affected agreed to, as he would still make 68.85 marks ($16.38) in two weeks at piece-work, when the average regular weekly wages for molders were 27.41 marks ($6.52); but this displeased the other molders, and they asserted in the most emphatic manner that a general reduction of wages was contemplated, although the conductors of the factory assured them that such was not the case, and struck work. The strikers then got the metal-workers union for Leipsic and vicinity to intervene and demand of their former employers that the reduction of wages of the molder on the kalenderwand be revoked and the assurance further given that no other reduction of wages was intended. The managers of the foundry, however, had in the meantime given the form of the kalenderwand to other foundries to be cast, in order to fulfill a contract, and they were bidden to call it back. The managers gave their word that no further reduction was in view, but declined to make any other concessions. The molders persisted in their demands, and the men in the other foundries who were put to work on the apple of discord also struck work, so that a considerable body of workmen came to be involved finally in the dispute over a molder's wages for piece-work.

In other factories and shops molders caught the same fever, and struck work, and at last machine manufacturers, on account of lack of fresh material from the foundries on which to work, had to discharge workmen who had nothing at all to do with the strikes. The molders of Leipsic did their best, by public meetings of the metal-workers, by handbills, and by interfering with molders brought from other parts to take their places, to bring the manufacturers to terms, but without success. There were 190 molders who struck work, and in consequence thereof a number of other workmen had to temporarily cease work for want of something to work upon. Reckoning the wages of each molder to be 20 marks ($5) a week on the average, each man being on a strike for five weeks lost $25.

The foregoing seems to have been a case where the workingmen were not justified in the action they took, but oftentimes they are justly right in striking. The conditions under which they live and labor are at times next to unendurable, as the following case will show.

In a linen spinning and weaving mill in the mountains in the Breslau-Liegnitz district, the employés struck work because they had to be on hand from 5:30 a. m. to 7 p. m., and work seventy hours=5×12+10 (Saturday) a week, and demanded that the day be from 6 a. m. to 7 p. m., particularly in winter, as many of them lived more than an hour away from the factory, so that with thirteen and one-half hours' stay there, they had hardly eight hours for their homes and rest. The directors of the mill did not consider themselves able to agree to these conditions, and after a little time work was resumed under the old mode, the workmen comforting themselves with the thought that they were much better off than others in neighboring mills, and especially than those in Bohemia.

The inspector for this district, commenting on the above case, says in substance, such a burdening of workingmen gives no advantage, but rather gives occasion for accidents. That the product suffers thereby is indubitable, but in the eyes of many manufacturers this disadvantage is slight compared to the advantage of having the machines work a little longer to produce a little more. It is to be doubted, however, whether the gain from much but poor stuff is greater than that from less but good products.

In some places the relations between employers and employés are good; in others bad.

RATES OF WAGES.

But little is said regarding the wages of workingmen. In the vicinity of Hirschberg (Breslau-Liegnitz district), in an iron mine, the wages paid were 179 to 337 marks (42 to 80 cents) a day; in a large textile establishment, where 1,100 workingmen were employed, the wages ran from 4.49 marks ($1.06) for girls to 20 marks ($4.76) and over for masters, superintendents, &c., the ordinary weaver getting 7.72 marks ($1.83) a week. In a paper factory in the same region, employing 200 men, they were allowed to participate in the profits arising from extra production, and 7.70 marks were thus placed to the credit of 43 of them in May, 1885, divided according to merit up to 46 marks ($9.94) a man. The daily wages for ten to eleven hours' work amounted thereby from 1.50 to 5 marks and upwards a person (35 cents to $1.19).

The inspector for the Leipsic district says that the assertion that wages have risen instead of lowered is established also by the fact that the income taxes during the five years from 1879 to 1884 of Saxony

point to an increase of wealth among the poorer classes. During this period the number of persons in the lowest class of the people whose incomes amount to less than 300 marks ($71) per annum, and are therefore free from tax, decreased from 77,060 to 76,287 persons and from 7.11 per cent to 6.31, so that a part of them must have had a larger income in 1884 than in 1879. The next class having incomes from 300 to 400 marks a year ($71 to $95) also decreased from 245,283 (22.61 per cent.) to 236,988 persons (19.60 per cent.). The next higher class manifests an increased income, the number of those with incomes from 400 to 500 marks ($95 to $119) having increased from 236,408 (21.79 per cent.) to 270,395 persons (22.37 per cent.). The incomes up to 500 marks ($119) showed therefore decrease from 583,670 (51.51 per cent.) to 558,751 (48.28 per cent.), while those from 500 to 800 ($119 to $190) advanced from 269,935 (24.88 per cent.), to 322,577 persons (26.68 per cent.). The class of incomes from 800 to 1,600 marks also rose from 165,262 (15.24 per cent.); persons to 197,564 (16.34 per cent.).

PAY-DAY.

Wages seem to be generally paid every eight to fourteen days. Saturday is the usual day for payment. Many object to this day as disadvantageous to the workmen and would like to select some other one, but the workmen object to any change. Some factories pay on Friday, however, so that the workmen can take advantage of the cheap Saturday market; others again pay on Mondays, to avoid the "blueness" characteristic of that day.

DISCHARGE OF WORKMEN.

Employers have to give fourteen days, notice to their workingmen before they can discharge them from their employ, and the workmen, on the other hand, cannot quit work without a like notice, and each is subject to damages for a violation of this law, but it works only to the favor of the workingman. An employer cannot dismiss without incurring a fine, but a workman compelled to work against his will is a nuisance as a general thing, and if fined has nothing wherewith to pay the fine. Knowing this, workmen often leave their employer without good cause and right in the midst of a busy season, sometimes causing him much vexation and loss. Employers therefore seek to protect themselves in various ways, by keeping wages in arrears or holding a certain sum as a guarantee for good behavior.

HOURS OF LABOR.

The inspectors were charged last year to give special attention to the hours of labor, and their reports are consequently fuller in this respect than in any other.

The result is that in one and the same inspection district and one and the same branch of industry much difference exists in the hours worked. The same factory does not hold to the same hours of labor year in and year out, not even day after day, but is governed largely by press of business. It is therefore very difficult, if not impossible, the general report says, to give an exact and comprehensive presentation thereof. Machine or manual labor, state of the market, increase or decrease of orders, competition, changes of fashion, demands of the season, &c., have much to do with determining the question. The general result is, that in industrial establishments which are run only during the day and not at night, the number of hours worked in the majority of cases

is from eleven to twelve, though in many cases only ten hours, and even less, are worked, while in others again the men labor longer, but eleven to twelve is the rule. The shortest hours of labor seem to prevail in polygraphical establishments. The very long periods of labor are customary with the industries working in stone and earth and upon foods and articles of luxury, where too exhausting labor is common, such as brick-kilns, trench-digging, glass-works, sugar factories, breweries, distilleries, cheese factories, &c., in which there is great irregularity.

Very trying and of long duration is the work in the textile factories, also in the iron foundries, where, however, long resting pauses are given. Those who have to look after machines and boilers also have trying and long work, often overtaxing, where no change is possible, running from twelve to thirteen hours of real labor, and not infrequently to twenty-four, coupled with great responsibility. Much working of extra hours is also done—in fact a great deal—in the large as well as in the small establishments, to fill increased orders; it is done in the majority of them all, and is not infrequently of long continuance. Where it is practicable there is a regular division of the labor into day and night work, but the working people look upon such an arrangement as unfavorable as they do an increase of the regular working force, because it deprives them of gain by extra work, although at the expense of their health. Leaving this extra work out of consideration, it is claimed that the genuine factory operative works a less number of hours a day than the hand-worker or commercial employé, which proposition seems to be established by figures collected by the inspector of Berlin-Charlottenburg, who shows that in every 100 male or female laborers the following have to work more than eleven hours a day, namely:

	Establishment.	Males.	Females.
In large factories	4.31	3.51	4.46
At hand work	18.85	15.52	6.09
In trade	64.77	54.94	45.06

It is to be borne in mind, however, that the figures in regard to large factories relate to the whole inspection district, while those respecting hand work and trade are for Berlin alone.

As already stated, the regular hours of labor commonly observed, leaving out of consideration the working of extra time, vary from ten to twelve hours. In the provinces of Eastern and Western Prussia they are pretty long; in Pomerania the average day of labor is eleven hours; in Posen, ten to eleven hours; in Schleswig-Holstein and Hanover, 11 hours; Dresden and Bautzen, 11 hours; Zwicken and Meissen, eleven to twelve hours; Leipsic, ten to twelve hours; Plauen, twelve hours; Mecklenburg, ten to twelve hours; Bremen, only ten hours; Hamburg, ten to eleven hours. In Berlin-Charlottenburg—

Hours of work.	Establishment.	Employés.	
		Males.	Females.
10 hours and less	3,070	71,465	23,116
10 hours and more	806	14,425	4,537
11 hours and less	3,710	82,883	26,417
11 hours and longer	166	3,007	1,236

Having regular day and night work, amounting to twenty-four and twenty-one hours, were only four establishments, employing altogether 414 males and 25 females. Without fixed hours of labor were 346 establishments, employing altogether 1,582 males and 109 females, among them 128 flour-mills, 162 slaughter-houses, 25 distilleries and breweries, 5 brick-kilns, &c. Certain slaughter houses, flour-mills, bakeries, &c., had from twelve to seventeen hours, while others of the same kind worked less than twelve hours. In the inspection district of Potsdam to Frankfort-on-the-Oder there are certain branches of industry which work regularly the whole year through at least twelve hours a day and at certain seasons still longer. In this district the worsted and cotton mills (one-third of the force being women, which work only by day), are run in summer from 5 a. m. to 9 p. m., thus fourteen hours of actual labor, and in winter from 6 a. m. to 7 or 8 p. m. This is done pretty regularly year in and year out. It is, however, otherwise with those mills which form part of a factory turning out cloths and woven stuffs. With such the length of time worked is very irregular, and is governed largely by present needs. As a general thing, the latter are much more overburdened with work.

More or less fluctuating are also the hours of labor in the Breslau-Liegnitz district, but more than twelve hours are only worked where the employer is on the eve of having a night period of labor, or where it is impossible to work in winter and full average has to be taken of the summer. Individual cases of long hours of labor occur in the porcelain factories, at the chemical works, in the gas-works, and the like, where it is necessary that a particular workman watch a melting or furnace process until it is completely finished, but in such cases the resting pauses are longer when they do take place. In the cloth factories in this district the hours of labor are sixty-five, seventy-one, seventy-four, and seventy-seven hours per week, working one hour less on Saturday than other days, the work beginning always at 6 o'clock. Seventy-four to seventy-seven hours of labor a week are not met with only in the smaller factories. Very long periods of labor are said to prevail in the flax-yarn spinning mills. Work is carried on in them, with exceptions, from 5 in the morning to 8 at night, with a pause of two hours, thus thirteen hours. The longest periods of labor were noticed in a bridge-building establishment, which was run daily regularly from 6 a. m. to 8 p. m., and with pressing work, on certain days through the night to the next mid day, thus for certain laborers for thirty hours on a stretch.

In the district of Oppeln it seldom happens that work is kept up for twelve hours or more. At the iron, lead, and silver furnaces, in the making of coke, in the flour-mills, dyeing establishments and printing-offices only are twelve hours the rule, and irregularly so in the brick-yards, at the glass-works, in the spinning-mills, and in the printing and lithographing offices. In the cigar-factories it is eleven hours. In all other branches of industry ten hours of labor are the rule.

In the Magdeburg district the laborers in the metal works and factories work in some cases for very long periods of time, in 16 establishments, for instance, more than eleven hours, in 15 more than twelve, in the others regularly ten to eleven. The last mentioned amounted to 48 establishments employing more than 10 workmen. In the first mentioned 16 establishments the great majority of workmen worked eleven and one-half to twelve hours, in the second mentioned fifteen, the hours for some ran from fifteen to seventeen, and for certain men in a copper-rolling mill up to twenty hours. On the other hand, the shortest hours

of labor in the said works often amounted to only four or six or nine. The very long hours of labor happened only under pressure of business.

In the Werseburg-Erfurt district eleven and one-half to twelve hours of labor are said to be seldom. Only 50 glass-blowers and 300 machine-builders worked last year twelve hours a day. In the water-mills and breweries the time of work is very irregular, running sometimes over twelve hours in the first named. The machine-builders referred to had to work only temporarily twelve hours. Eleven hours of labor are frequently to be met with, and prevailing in the textile industry, in the lime and brick kilns, tan-yards, and malt-factories.

In Schleswig-Holstein the length of time labored is on the average eleven hours and less.

In the province of Hanover the real day of labor amounts to ten hours in most of the factories. In some factories, especially textile, eleven hours are worked; more than eleven hours labor only the brick-kiln laborers of Lippe, from half-past 4 or 5 in the morning, in summer, to 9 at night.

In the province of Hesse-Nassau ten to eleven hours of labor seem to be the rule. The ten hours of labor seem to prevail in the cities, while eleven are characteristic of the country. In glass-works where ten years ago it was customary to work fourteen hours a day (including pauses), but ten hours (including pauses) are now worked as a general thing, and the managers of the works say that the men render more work now working ten hours than they used to do laboring fourteen.

In the Minden-Münster district the workingmen work at least ten, mostly eleven, hours a day. From ten to ten and three-fourths hours is customary at the lime-kilns, in the sewing-machine factories, piano factories, and artificial-manure factories, in the chemical and gas works, dyeing establishments, printing offices, india-rubber goods factories, straw paper factories, wood industry, cake bakeries, confection and chocolate factories, tobacco industry, wash goods and quilt factories, and lithographing offices. From eleven to eleven and three-fourths hours is general at the stone quarries, iron foundries, boiler works, machine factories, sewing machine factories, soap factories, asphalt and lime factories, jute and flax spinning, and weaving of all kinds, cotton weaving (in winter), mechanical rope making, bleaching and apprêteur establishments, paper and leather factories, flour mills, and in linen ironing.

The same number of hours are also worked in dyeing establishments and printing offices, in the wood industry, and in the tobacco factories.

In the Arnsberg district the number of hours worked are, as a rule, less than eleven. In some places a rest of an hour and a half at noon and of half an hour in the afternoon is taken, making the real day of labor not quite eleven hours. The few spinning-mills in the district work eleven and one-half hours. In the machine factories ten hours are worked.

In the Düsseldorf district ten to twelve hours are worked in the most of cases.

In the small ironware and steel industry, where the house industry, in consequence of low prices, calls for fourteen to sixteen actual hours of labor even for apprentices, the customary period of labor is usually fourteen hours, with twelve to twelve and one-half hours of real work. In certain instances the period is sixteen hours, with fourteen to fifteen hours of real labor. In the spinning mills of all kinds the period of work is thirteen and one-half to fourteen hours as a rule, with twelve hours of real work. Certain cotton and netting mills work regularly one to two hours longer, so that the working people are kept at their tasks from 6 to

12 a. m. and 1 to 8 or 9 p. m. In other cotton and netting mills eleven to eleven and one-half hours are customary. In weaving-mills some work only ten hours, even in the busiest seasons, while others work ten in winter and eleven in summers, and others, again, eleven or twelve hours the whole year through, and thirteen to fourteen hours when very busy. Cotton and colored cloth mills have usually eleven to twelve hours of labor, which are increased here and there an hour and a half in busy seasons. In the silk and velvet factories the rule is twelve hours, which is frequently broken. The same is true of the apprêteur works, and in a higher degree of the dye works, which, especially those for silk and velvet, will work four or five days for ten hours a day, and then for a whole week work fourteen hours a day, offering a true picture of a cotton-printing mill and apprêteur work (with nine hours of work in winter and thirteen and three-fourths in the season) at work in the season, as well as of a button and ribbon factory, and the various kinds of factories for clothing and cleaning. Where there is regular day and night labor the periods vary. Some establishments have thirteen to fourteen hours of day labor, or twelve to twelve and one-half real labor, and ten to eleven hours of night labor, or nine and one-half to ten of real labor, while others divide the time up into equal periods of twelve hours each.

In the Cologne-Coblenz district the hours of labor are pretty much the same in factories of like nature. In those working day and night the period of labor is twelve hours, including a resting pause of one and one-half to two hours. Extra working occurs but little, and mostly to make up for failing workmen.

This rule is generally followed in the forges, rolling-mills, many chemical works, raw-sugar factories, most of the sugar refineries, and among machinists and furnace and boiler firemen in all establishments where the furnaces or boilers are kept going continually. The workmen in these industries who are not governed by the regular periods of off and on work thirteen hours including pauses. Having ten to twelve and a half hours of labor are the brick-kilns, factories of fire-proof materials, of earthen tubes, of stoneware and porcelain, glass works (the makers of the glass laboring only nine hours), iron and metal foundries, machine and small iron-ware factories, many chemical works, most of the powder works, factories of lead colors, paper and wall-paper factories, most of the establishments working in wood, chocolate and confection factories, cigar and tobacco factories, laundries, and book-printing offices.

Departures from the rule and exceptions occur a good deal. The day of eleven hours is also customary in the larger tanyards, among the marble and stone cutters, and in the great majority of textile factories. In the textile factories twelve hours of labor also occur, and extra working is not infrequent in their branch of industry.

In the Aix-la-Chapelle-Treves district twelve hours of labor are the rule in the smelting houses; in the machine and metal factories, ten to eleven. Of 1,251 establishments in the Aix-la-Chapelle district having a factory character, with 45,305 workmen, 253 with 19,402workmen—that is, four-ninths of all the workmen—belong to the textile industry.

In the spinning and weaving mills, which amount to 199, there are 15,970 workmen, or one-third of all the workmen. About one-third of the laborers employed in the spinning and weaving mills worked eleven hours a day; the other two-thirds lead, in about equal parts, ten twelve, and more hours of labor. All the spinning mills of the district, with the exception of a large flax spinning-mill, are engaged in spinning wool. The latter work is said not to be trying, and can be done

by any man of ordinary strength with ease, so that the hours of labor mostly followed—that is, from eleven to eleven and one-half in winter and twelve to twelve and one-half in summer—bring no evil consequences in their train.

From Bavaria it is reported that in the larger part of the factories, employing over 30,000 workmen, more than eleven hours of labor a day is the custom, while in only 200 establishments, having in round numbers 5,000 workmen, more than twelve hours of labor is the rule. In about 600 establishments, with 18,000 workmen, less than eleven hours is worked. To recapitulate, in Upper Bavaria, Lower Bavaria, Suabia, and Neuburg, 99 establishments, employing 3,886 workmen, worked, in 1885, less than ten hours a day; 508 establishments, with 14,608 men, worked ten to eleven hours; 914 establishments, with 30,580 men, eleven to twelve hours; and 204 establishments, with 5,162 men, worked more than twelve hours a day. In the district of the Upper Palatinate and Regensburg, Upper Franconia, &c., the hours of labor were found to be: Nine hours in 6 establishments, nine and a half in 3, ten in 69, ten and a half in 15, ten and three-quarters in 1, eleven in 114, eleven and a half in 13, twelve in 43, twelve and a half in 2, thirteen in 11, fourteen in 3, and fifteen in 2. The inspector of this district says that the cutters and polishers in the looking-glass factories in his district, of which there are many, have very long hours of labor. The former work from 4 a. m. to 8 p. m.—thus sixteen hours uninterruptedly—while the polishers are six days in the week without cessation at their work, changing off by twos before and after midnight for four to six hours of sleep, getting only on Sundays really proper sleep. At the other times when they sleep they simply throw themselves on a bench or a dirty sack of straw in a corner of the work-room.

This manner of working is common to all the glass cutting and polishing establishments of the district, and is largely due to the fact that the proprietors of these establishments dwell at other places than those where they are located, most of them living in Fürth, and leave the superintendence and management of them to bosses, with whom they alone settle accounts. In giving out work they do not forget to make as much out of the workmen for themselves as possible, and hence it comes about that the workmen in order to make living wages are forced to labor like machines. In the Bavarian Palatinate the actual hours of labor were found to be less than nine hours in 15 establishments, with 451 workmen; just ten hours in 57, with 4,224 workmen; between ten and eleven in 81, with 7,487 men; just eleven in 86, with 4,310 men; between eleven and twelve in 68, with 3,738 men; just twelve in 28, with 607 men; and more than twelve in 48, with 663 men.

In the Leipsic district there were in 1885 some 49,087 factory operatives, 19,680 of them, or 40.1 per cent., working ten hours a day; 20,070, or 40.8 per cent., working eleven hours a day; and 4,780, or 9.7 per cent., working twelve hours a day; those working at night being left out of the calculation.

In general the hours of labor in Saxony are long. In the Plauen district twelve hours a day are said to be the rule. The inspector for the district seems to think that just as much could be accomplished in ten hours.

The hours of labor in Wurtemberg are pretty much what they are in other parts of the Empire.

In the Grand Duchy of Baden the hours of labor vary very much, In the great majority of industrial establishments from ten to eleven hours a day are worked. It is very seldom that less than ten or more

than twelve hours are worked, and the latter occurs oftener than the former. The textile factories almost all work twelve hours, the porcelain factories thirteen, and the iron foundries more than eleven.

In the Grand Duchy of Hesse eleven to twelve hours are worked in the cement factories, in the brick-kilns, in 1 among 11 iron foundries, in 1 among 6 metal foundries, in the factories making agricultural steel implements (in the country), in the factories making parts of sewing-machines (in the country), in 6 out of 34 machine-shops, in 1 chemical factory out of 12, in 1 stearine factory, in the oil factories, dye-works, woolen-mills, paper factories, wall-paper factories, 3 out of 15 leather factories, saw-mills, toy factories, comb factories, cocoa-matting factories, flour mills, macaroni factories, sago factories, coffee surrogate factories, breweries, in 5 out of 86 cigar factories, hat factories, and 1 of 12 factories making shoes.

Over twelve hours of labor were met with in 2 oil factories, in a pasteboard factory, in a starch factory, in a sausage factory, and among the millers.

The longest hours of labor were found to prevail in a paper factory, where certain of the employés work alternately one week twelve and the other seventeen hours.

In Saxe-Weimar, in the textile industry, 7 establishments work ten hours a day, 22 work eleven, 11 work twelve, and 4 more than twelve. In those industries where work is done in stone or earth, as well as in the porcelain factories, 3 establishments work ten hours a day, 6 work eleven hours, and 6 work twelve or more. Where machines and tools are made, 6 establishments work ten hours, 5 work eleven, and 1 is run twelve hours.

In Saxe-Coburg-Gotha the average hours of labor are nine hours in 7 establishments, ten in 81, eleven in 83, twelve in 38, and more than twelve in 4.

In Saxe-Altenburg, of 8,256 adult workmen, 4,836 have to work eleven hours a day, from 6 a. m. to 7 p. m., with half an hour's rest in the forenoon, an hour at mid-day, and half an hour in the afternoon. Where the time worked is otherwise regulated it is said to be almost always in favor of the workmen, in that it is half an hour or an hour shorter. It is only in the breweries that the labor is said to be trying.

In Bremen 66.2 per cent. of the adult workmen labor less than ten hours a day, and 33.8 per cent. more than ten.

In Hamburg last summer 79.6 per cent. of the 752 industrial establishments, employing altogether 19,787 workmen, were run ten hours or less; 83.6 per cent. of all the workmen in them had this time.

DAY AND NIGHT LABOR.

The foregoing statistics show the customary hours of labor in a very large number of the chief industrial districts of Germany in factories which do not run day and night, although it is hard to determine in many cases what is an establishment that is to be regarded as running only during the day. We will now consider somewhat those which are run day and night, with two sets of workmen.

The day of twenty-four hours is usually divided into two periods of twelve hours each, one beginning early in the day and the other at six or seven in the evening; but sometimes the day and night periods are not of equal length, the former being fourteen hours long and the latter ten; also in order to bring about a regular weekly change in the day and night terms it is necessary that one of the periods should run eight-

een hours, that is, from Saturday to Monday, which is at times stretched to even twenty-four hours. This is called the long period, and is said to be hated by the workmen, as it gives one set an unusually long period of work, while those off get a correspondingly long period of rest, when it occurs only every second Sunday or seldomer. Attempts to avoid this long period by working twice six hours or three times eight hours is said to meet with opposition from the workmen because they thus fail to get a full Sunday.

The following statement shows what manner of men are engaged in day and night work, where a double force of workmen is employed, one for the day and one for the night, and is said to be generally applicable to the whole Empire, although referring particularly to the Dusseldorf inspection district:

(1) All workmen in the furnaces who have to attend to the furnaces and the machinery connected therewith, as boilers, motors, pumps, &c.

(2) Workmen in glass factories, spirit and tar distilleries, and glycerine refineries, who are charged with the care of the fires and vessels; stone-sawers, melters, and distillers in ammoniac-soda factories; the blende and gravel burners and kammer-arbeiter in sulphuric-acid factories; the melters and condensation attendants in sulphate factories; the workers in lye and roester (roasters) in the copper works, the burners in zinc-white factories, and the machinists of continually-going pump-works.

(3) The workmen in foundries and refining, welding, nealing, and rolling-mills for iron and steel; in cast and tempered cast-steel, verdigris and zinc foundries, as well as in brick and lime kilns and earthen-ware factories; in factories for fire-proof goods, porcelain, glass and water-glass; in chemical, ice, soap, stearine, starch, ultramarine, and white lead factories; in the making of malt; in beer breweries, sugar factories, and in pump-works that are constantly in operation, so far as they are concerned with keeping up the fires or attending on the boilers.

(4) Twelve hours of labor have also the workmen working day and night in double force who have the filling or emptying of the manufacturing apparatus in the factories mentioned in paragraph numbered 3, or the handling or manipulation of the hot products; but their work is lighter. The so-called long period of work they do not have, but on the other hand many of them every eight or fourteen days, on Sundays, have to do cleaning and fixing up, which is of very uncertain length, depending on the character of the workshop and the habits and ideas of the bosses, being in many of the iron and steel works of such a nature that at least one-third of the entire force are often called upon for this service and kept at work sometimes during the whole twelve hours of factory rest. Most of these Sunday workmen receive nothing additional for this labor, and many of them no compensation whatever, as it is held to be included in the pay they receive for the piecework done during the week.

In the glass-works, where the day is divided up into three periods of eight hours each, or two of eleven or twelve each, the glass-blowers and their attendants have to count upon the completion of their work the bottles blown, which occupies one to three hours' time, thus making their day's labor ten to fourteen hours in length. For the time consumed in picking up and counting the bottles made no pay is given.

The smelters and their assistants in zinc-smelting work during the day only, for ten to twelve hours on week days and six to eight on Sundays, and the workmen engaged in filling and emptying the furnaces in coke-making eleven to thirteen hours every day. In the brick and lime

kilns, as well as in the factories for fire-proof articles and porcelain, the men work twelve hours a day during the week, and, as a rule, not at all on Sundays. In the last-mentioned establishments the grinding up of the raw stuff is usually done by a double force, working day and night, while the molders work only during the day, from twelve to fourteen hours.

The boilers in yarn-bleaching work also in double force for twelve hours each, as do the stoff-müllers and machine-conductors in the paper factories, the millers in the steam mills, and most of them in the mills run by water.

COUNTRY FACTORIES.

The country factories are said to show in many instances a peculiar departure from the customary practices of the large factories. Great changes, however, have been brought about in them and are constantly taking place, so that the "simple" ways of old are giving way to the machinery manners of the present.

In East and West Prussia the daily hours of labor in industrial work are said to be of excessive length, especially in the large brick-kilns, in which during the summer enough raw brick is made for burning in the winter. In the kilns where steam is used day and night work is very frequent, but in the smaller kilns driven with hand and horse-power the workmen are paid by the piece and have no fixed time. They work usually from sunrise to sunset under a great physical strain. The inspector for the Frankfort-on-the-Oder (Potsdam) district says of these men that they work for seven months in summer in the brick-kilns and the rest of the five months of the year live at home or go out as servants. They begin work in the spring strong, and in the autumn look like mere shadows.

Brewers and maltsters have very trying labor also, but are much better nourished, and get frequent and long pauses. The inspector for Frankfort-Potsdam says of these, as well as the workmen in the country distilleries, that they work very irregularly according as they mash three or four times a week; that their work is continuous and not divided into periods of off and on, which they have to keep up as necessity requires for fifteen hours, though, of course, from the nature of the business, many undesired pauses occur. And the inspector adds that notwithstanding their exacting work the most robust men are found in these industries.

In the dairies and on the farms very long hours of labor prevail.

Of 55 starch factories in the province of Posen, 42 make only green (wet) starch, while 14 manufacture dry starch. The first work very regularly, as they are closely connected with farm work, while the latter are run regularly, but not the same length of time a day. They are run daily from ten to sixteen, and even eighteen hours, and the work is said to be very injurious. The workmen have to work, with the exception of those on the dry floors, in cold and wet rooms, where there is often much draft, and the result is that they get colds and rheumatism, and are not able to remain in the factories a series of years.

In the sugar factories the hours of labor are long. In Mecklenburg, for instance, in certain cases, eighteen hours a day, and in Baden up to twenty-one, which, with exceptions, is said to be liked by the workmen. During the height of the season the force is doubled and night-work introduced, but when this is over, eleven to twelve hours of work a day seems to be customary. The warm and moist air of these factories is said to be very injurious to the health.

Similar conditions exist in the chicory factories.

Great differences are said to exist among the flour-mills. In those driven by steam machinery the work is pretty regular, like in factories; but in others, which depend upon wind or water for their propulsion, it is quite otherwise. The inspector for the Breslau-Liegnitz district says that where formerly it was the custom to have twenty to thirty journeymen millers in a mill working eight hours a day, now only eight to ten are employed, with ten to twelve day-laborers working twelve hours a day, but turning off twice as much work. Before it was done by millers only; now, with the introduction of machinery, those only are called millers who attend to the running of the machinery, while common laborers are used for loading and unloading grain and flour and attending to the sacks. The large mills, which go day and night, are run with a double force, each on and off for twelve hours; or it is arranged that the force of workmen be divided up into three groups, each of which shall be so employed during a sixteen hours' period of labor that when one group is half through a fresh one shall commence.

In this way only one-third of the whole force is employed at night, in the forenoon all, and in the afternoon two-thirds. On Sundays the night work goes over to the following party. In those mills where the grinding is paid for, that are combined with large mills that do milling on their own account, as well as in the smaller mills, or such larger ones as have two to six grindings, the length of time labored is often more than sixteen hours, to take advantage of a full flow of water. So is it with the wind-mills. One miller said to an inspector who referred to the small amount of sleep the millers sometimes get, that "it must be an awful poor miller who requires more than four hours' sleep." In the province of Posen there were last year 100 saw-mills, of which 31 were run by water and by steam. Among the first mentioned they work as long as they can see; that is, thirteen to fourteen hours, including two hours of pauses; the latter (steam-mills) work eleven hours and longer, up to thirteen or fourteen hours. In the flour-mills the hours worked vary very much. There were last year in the said province 3,058 flour-mills, 2,487 of them propelled by wind, 420 by water, and 151 by steam. In all these wind-mills, and in a part of the mills driven by water, the men work the whole day and entire night, with slight interruptions when the wind and water allow it. The most of the water-mills are run eighteen hours out of the twenty-four. In the mills turning out 5 to 10 wispels a day fifteen to eighteen hours are worked. In those doing a business of more than 10 wispels a day ten to thirteen hours are worked. The owners themselves of the mills admit that the labor in them is too long and trying; but say that the prices for flour and the like compel them to require it; but these long hours have prevailed for years. The owners of the mills say that the diseases to which the millers are subject are due to the dust in which they have to work; but the long hours of labor, which are kept up even on Sundays, probably have much to do with causing them. Very few men are to be met with in the mills over forty years old. This is because the men who work sixteen to eighteen hours a day for some years become completely used up physically from their arduous toil.

The above remarks concerning mills relate to those of East and West Prussia and Posen, but are said to to be more or less applicable to those of the great part of the Empire.

The people who seem to be the most unfavorably situated of all in respect to reward for labor rendered are those in the country districts, who are engaged at the homes in what is generally known as house in-

dustry. They work, as a rule, from early in the morning to late in the evening for a mere pittance.

EFFECT OF LABOR UPON HEALTH.

On this point the statistics seem to be somewhat meager, and the inspectors to differ in their views. It is thought that the observations of the physicians having to deal with invalid workmen under the recent law of the Empire providing for their relief when sick will in future afford the best means for determining this question. Many of the reports agree that in all those branches of industry where there is a high or changing temperature, draft, much dust, bad air, foul gases, and vapors, or injurious materials worked, as phosphorus, quicksilver, and poisons, long hours of labor are of much more serious consequences than where the outside conditions are more favorable, or where the workmen are much in the open air. A day's labor of ten to twelve hours in a cement or match factory is much more injurious to a workman's health than fourteen to fifteen in a brick-kiln or saw-mill, it is claimed. Poor food, excessive use of spirituous liquors, the character of the working man's home, and its distance from his place of work also have their influence. Labor in gas-works is very trying. The textile factories come in for a large share of the complaint. In all their branches, as well as in the cigar factories, large numbers of unhealthy, miserable looking workmen are to be seen, whose state is largely attributed to the manner in which these factories are conducted. Much could be done in the improvement and ventilation of the rooms in which these poor people work.

The inspector of the Neckar, Jagst, and Donau district says that the worst looking and most shambling set of operatives are to be met with in the textile industry, especially in the spinning and twisting mills and partly also in the weaving mills. That this appearance is due alone to their long hours of labor, he says, he would not like to affirm, as a great many other influences are to be taken into consideration. Beyond doubt the textile men present a strong contrast to those of other callings, to those in the machine factories for instance; but a great many persons are taken into the textile factories because they are weak and decrepit and fit for labor in them when unfit for other occupations, and therefore seek employment in the textile factories. He mentions a silk-twisting-mill, by way of example, where a material part of the working force consists of weak-minded, dwarfish, humpbacked women and girls who can be made use of to the advantage of themselves and of those to whom they belong. Not thus employed, they would probably fare worse or be a burden to their community, he says; but still the picture is a sad one.

From the Cologne-Coblenz district the report is that statistics taken among the cigar factories working the same length of time, that is, twelve hours a day, including a two hours' pause, as to the effect of their labor upon the workmen, gives extraordinary differences.

In ten factories in villages lying near to each other, where 456 persons were employed, mostly females of various ages, the average length of a case of illness was twenty-four and a fifth days, while three factories in a small country village, employing 147 persons, mostly young women, had only an average of four days. In the first mentioned the whole number of cases of sickness was twenty-nine and four-fifths to each hundred employés and 722⅘, while in the second case it amounted to only 29.9 cases of illness involving 120⅖ days of sickness. In another fac-

tory in the same little town, with a society of 80 members for supporting one another when sick, there were 48 cases of illness, with a total number of eight-four days sick.

Sometimes a better table of averages is shown by men working extra hours than by their fellowmen on regular work only, may be because the latter are not so strong and only the robuster ones work extra time. Thus the same inspector says that a large wire-drawing mill, with a cable factory and zinc department, employed in the last quarter of the year under consideration, 1,296 workmen in eighty-one days of labor. Of these 1,033 were called upon for extra work, and 263 not. Of the latter 107 had the doctor in attendance 175 times, without being incapacited for work, while of the men who did extra work 314 had to have medical advice 548 times, without being unable to work. In the first instance 40.7 per cent. of the workmen required medical service, or 1.63 calls to each workman, in the second only 30.4 per cent. and 1.74 calls to each workman. Of the first-mentioned 263 workmen 43 became temporarily incapacitated for work, and of the 1,033 only 36, thus 16.3 per cent. for the first batch, and 4.1 per cent. for the second. The inspector therefore thinks that the longer hours of labor cannot be absolutely injurious to the health.

In a similar manner expresses himself the inspector for the Duchy of Anhalt, who regards the normal day of labor from 6 a. m. to, at longest, 7 p. m. as not making immoderate demands on the workingman in the factories, who he says labors under more favorable conditions than the farm laborer and the hand workman. He says he does not know of any injury to health ensuing from such labor, even where the normal time is exceeded. This may be though, he suggests, because only good, strong men are employed. Other inspectors are of a different opinion.

The inspector of the Aix-la-Chapelle-Treves district, where there are many furnaces, foundries, glass-works, &c., which are in general held to be injurious to health, says that in the smelting-houses of his district there are more old and hardy workmen than he believes he has seen elsewhere, which is due to their temperate manner of living.

Very long hours of labor seem to enervate the workingman and cause him to turn off not much more work than he would working zealously but a normal length of time, and render him more liable to accident.

More care is taken by factory owners than formerly to have their buildings and work-shops arranged or constructed in accordance with the principles of sanitary science, and as a result there are a less number of diseases that can be traced to factory causes. The use of the electric light and the introduction of fresh air into the rooms where work is performed are constantly on the increase, and very beneficial in their effects. The inspectors are giving much attention to the proper ventilation of factories, and in this respect are meeting with many improprieties and much opposition. Particular diseases natural to certain kinds of work, as handling of phosphorus, lead, and [illegible]ons of all kinds, do not appear so frequently as formerly. Lead poisoning is a frequent complaint, which is said to be largely due to carelessness on the part of the laborers themselves. The manufacture of poisonous colors is decreasing. Comparatively little complaint is said to be made of the injurious effects attending the covering of the backs of mirrors with quicksilver. The establishments at Fürth, Bavaria, in this business have formed a union for the purpose of granting each man in their employ two months' leave of absence with pay every two years. The use of methyl alcohol in the hat factories to denaturalize spirit of wine has a bad effect on the eyes and health of workmen. The porcelain, china, and

stone ware factories are of an injurious character the more hand labor is used. The cutting and polishing of precious stones and agates is very injurious to workmen. The average duration of the life of a workman engaged on this work is put at thirty years. In the white-tin factories the workmen are injured by dust. Catarrh of the stomach occurs much among glass-blowers, caused by drinking much cold water; but they experience little trouble with their lungs, on account of the exercise given them. Pulmonary complaints are of frequent occurrence where glass is ground. Men in the factories making artificial manure suffer from catarrh of the stomach and spitting of blood. In the spinning mills and weaving mills the majority of the employés are consumptive and lacking in blood. The lung troubles are considered to be due to the dust that is breathed in; the poverty of blood, to bad air and poor food. There is more sickness in the spinning mills than in the weaving mills.

Pulmonary complaints abound among the employés of cigar factories. Bad air, high temperature of work-rooms, and dust, coupled with the fact that, strange to say, delicate people seek this occupation, and that the moral life of the operatives is low, cause these troubles. Children, too, are put too early to work in them. It is said that there is also a great deal of consumption of the lungs among workmen who live in the country but work in a neighboring town, and have a long way to go to and from work. The reason they thus suffer is alleged to be the intemperate use of ardent spirits, to which they are much addicted. They eat nothing warm at midday, but content themselves with bread and schnapps, and at night go to bed with a full stomach. The very moment a cigar factory is entered, the men who live orderly lives can be pointed out at a glance, it is said. Those who make men's clothes suffer much from disturbance of the lungs and digestive organs. Among cabinet-makers there is much consumption; also among printers.

DWELLINGS.

Rents, especially in the larger towns, are entirely too high for the working classes. Many of them, therefore, live outside the towns where they work, who are taken to and from the factory towns in many instances by the railroads at reduced rates in special trains. Lack of good quarters drives the single men, who often have just room enough to sleep in, into the restaurants. Some of the large factories have dwellings for workingmen, which are let to their employés on easy terms, and these are increasing, it is claimed. Some have kitchen and eating-rooms, bath and wash rooms, conversation and reading rooms, gardens, and the like for their men.

BENEFICIAL ARRANGEMENTS.

The most general and far-reaching measures taken for the relief of the workingmen are probably the laws of the Empire passed within the last two or three years providing for the organization of the factory operatives of the Empire into organizations for their relief when sick or disabled by accident. An abstract of the provisions of these laws will be found given in my dispatch No. 132, of July 25, 1884. The law respecting relief in consequence of accident is said not to have been long enough in operation for its merits to be passed upon. The one governing support in case of illness is alleged to be working well, although abused by the workmen to some extent, who feign sickness to obtain its benefits.

The following instances will show what is being done for the well-being of their employés by various firms:

Brass and copper works of Aaron Hirsch & Son.—This is the oldest establishment of the kind in Germany, situated in the region of Potsdam. It was founded at the close of the last century, and has been in the possession of Aaron Hirsch & Son since 1863. Two steam-engines of 120 horse-power drive the works, and 275 workmen are employed, who live mostly at the works, in houses provided for them, which are said to be roomy and well-situated. These are let to the men at 36 marks ($9) a year, including a piece of ground large enough to raise vegetables upon. Widows have to pay no rent. The chief beneficial arrangement is the invalid and pension fund, from which the sick workman receives 1 mark, 1 mark 20 pfennigs, or 1 mark 50 pfennigs a day (24, 28, and 35 cents), and the invalid a pension, according to length of service, up to 26 marks 25 pfennigs ($6.22) a month; the widow of a deceased employé, according to his length of service, up to 8 marks 25 pfennigs ($1.96) a month, and 3 marks (71 cents) for each child left. To children left without either father or mother, 4 marks 50 pfennigs a month ($1.07) is granted until they are fourteen years old. From the fund medical attendance and drugs are paid for and a part of the burial costs. Master workmen have to contribute 3 marks 75 pfennigs (87 cents) a month to the fund; married journeymen, 3 mark (71 cents); and unmarried ones, 2 marks (47 cents), to which the owners of the works add as much more in every case. Day laborers pay to the fund 1 mark 25 pfennigs (29 cents) a month, and have the least rights to its benefits. They receive support when sick and also free medical attendance and medicine, but no pension. About 100 families live at the works, and they are considered as having the best rights to assistance from the fund. The children of these workmen are instructed in a school-house erected for them. The costs of instruction are borne by 6 marks ($1.42) a year for each child by the common fund, and by the owners of the factory. The workmen also have a singing society and a union of old soldiers among themselves.

Royal Waechtersbach Crockery Factory.—The workmen have, first, a co-operative society for supplying themselves with food. Once a week, on every Saturday evening, they get their provisions for the ensuing week, on the payment of cash. The society consists of 113 heads of families, each having 50 marks' worth ($11.90) of stock paid in.

Last year the record for the society was:

Sales	$13,328
Costs of management	130
Profits and interest	761
Given to widows and orphans	35

The introduction or use of schnapps in the factory is forbidden. Three times a day warm coffee can be had for 2 pfennigs (two-fifths of a cent) a pint, and good beer for 23 pfennigs (5⅝ cents) a bottle, but only at midday and during the afternoon resting pauses or in the evening. A turning society exists for the physical development of the men. Every employé of the factory of the male sex is compelled to take gymnastic exercises twice a week in summer and once a week in winter, for an hour and a half, up to his seventeenth year, unless he lives three-quarters of an hour away from the factory, or his physician forbids it. For the instruction and apparatus they have nothing to pay. Upon the completion of the seventeenth year the compulsion to turn ceases, and the boy becomes, if he

desires, an active member of the gymnastic society. The results that follow this exercise are said to be very satisfactory. The association consists of 31 youths, 36 active turners, and 36 friends of turning. The employés also have a bowling alley.

Every family has a separate dwelling-house, with a garden attached to it. These houses have been constructed on two different systems, and sold to their inhabitants on easy terms and long time; but the workmen show an indisposition to buy finished houses. They like to build them themselves, with their own hands and that of their families and neighbors, according to their own ideas and wants.

The factory has a savings bank, which pays 4 per cent. a year on deposits, and loans money at 5 per cent. Rooms, fire, light, and necessary work the factory owners supply free of charge. Whatever gain is made is used for the benefit of the factory hands. The bank has been found to be of great advantage to the workmen.

It was established in the first place to get and keep them out of the clutches of the money-changers, and the object has been attained. Ninety per cent. of the workmen, the director of the factory says, are slowly but steadily becoming well to do, whereas formerly they were the poorest people of the neighborhood. There is no beggar in Schlierback, where the factory is located, and no man from the factory has become one. Widows and orphans are looked after.

To the society organized under the law of the Empire, providing for the relief of factory operatives during illness, belong 336 members. During the first year of its operation there were 101 cases of sickness, involving a loss of 1,412 days of work. Its receipts and expenditures were as follows, allowing in this case 4 marks to the dollar:

Receipts:	
From members	$992 48¼
From the factory	496 25
Total	1,488 73¼
Expenditures:	
Medical treatment	445 10
Support of members	352 86¼
Medicines and appliances	366 27
Burials	7 50
Care in hospital	14 81¼
Instruments	39 00
Reserve fund	150 00
Cash in hand	113 18¼
Total	1,488 73¼

There are two physicians to attend to the sick, either of whom a workman can have, and who in serious cases consult together. An arrangement also has been made with the physicians under which they are to attend a family for 6 marks ($1.50) a year. One hundred families have entered into this arrangement. Very cheap service it must be confessed.

Quite a number of men have their lives insured. The director says when he took charge of the factory there was none of this done. All the large insurance companies declined, as a rule, to insure the lives of men engaged in making porcelain and stone ware. He tried to get the insurance company inspectors to come to his factory and examine the arrangements for cleanliness, air, light, &c., with a view to insuring the men, but none of them would come. At last a young company made

the venture, and appointed one of the factory employés as a sub-agent, and then other companies followed. The result is that there are now five such sub-agents in the factory, representing different companies, and 78 employés are insured to the total amount of $45,050, and an annual premium of $1,080.

The factory has a voluntary fire department.

All misdemeanors are judged and punished by the workmen themselves by what is called their Allesten-Kollegium, a body chosen by themselves.

The workmen have also a reading circle of 14 members, a singing society of 22 active and 20 passive members, a music club of 13 active and 36 passive members, a veteran's league of old soldiers and an embellishment society of 120 members.

Such advance has been made by these men, that the burgomaster of the place is taken from among them.

Ems lead and silver works.—The number of workmen averaged 1,406 in 1885 against 1,349 in 1884. At the close of the year the number of workmen employed was 1,386 against 1,377 in 1884 at its end.

Their beneficial order numbered on December 31, 1885, including 27 officers of the works, 27 active members in the army and 20 not any more employed at the works, 1,487 members in active standing; 59 invalid members, 168 widows, 265 fatherless children under fourteen years of age, and 19 children under fourteen who had neither father nor mother.

RECEIPTS.

From the members	$7,968 12½
From the works	3,975 12½
From fines	412 65½
Interest on capital and rents	1,069 75½
Active capital stock paid back	1,214 81½
Outstanding sums from the preceding year	50 00
Extra receipts	52 18½
Total	14,742 66½

DISBURSEMENTS.

Pensions to invalids	$2,190 22½
Support to widows and fatherless orphans	5,451 44½
Orphans without father or mother	238 50
Attendance	2,840 87½
Doctor's services	1,226 40
Medicines and stimulants	911 81½
Society's hospital	566 13
Other sick-institutions	23 52½
Burials	348 75
Extra support	25 50
Costs of administration	193 20½
Other items	121 53½
Total	14,137 90½

The works had in 1885 some 196 dwellings for families, of which on December 1, 1885, the day of enumeration, four were accidentally empty, and the others were rented to 36 officers, 3 teachers, 2 saleswomen of the co-operative society, and 161 workmen; in which dwelt 1,323 persons, including 535 children, of whom 835 were males and 498 females. Besides these dwellings, there are what are termed sleeping-houses, which had on December 1, 1885, 370 sleeping places, 63 of which were

without proprietors. At the eating-rooms 149,319 portions of coffee were sold to the men in the forenoons and 138,586 in the afternoons during 1885, and 67,867 dinners and 37,351 suppers. The receipts of the kitchen were $6,627.32 and the expenditures $5,952.41.

The co-operative association numbered 582 on July 1, 1885, against 594 members on July 1, 1884. During the year from July 1, 1884, to July 1, 1885, merchandise was sold to amount of $81,409.75; to the extent of $58,662.29 to members of the association and $2,274.46 to outsiders. The net profit for the year was $5,053.94, of which $4,106.23 were distributed among the members of the association, according to the amounts bought by them. Twenty-eight workmen bought for less than $25; 83 for from $25 to $50; 88 for from $50 to $75; 114 for from $75 to $100; 93 for from $100 to $125; 55 for from $125 to $150; 32 for from $150 to $175; 20 for from $175 to $200; 8 for from $200 to $225; 4 from $225 to $250; and 8 for from $250 to $275. Into the savings bank of the works the men deposited in 1885 $5,396.50, made by 83 workmen in 126 deposits, 17 of which were afterwards withdrawn. In eleven years the bank has had 273 depositors from among the workmen, 106 of whom have entirely drawn out whatever they put into the bank and 39 partly so. An elementary school of three classes, supported by the works, had 157 pupils last year. The cost of the school's maintenance to the works during the year amounted to $356.88.

The dye-works at Hoechst, near Frankfort-on-the-Main, formerly Meister, Lucius & Bruening, have a co-operative store which furnishes their men with food and provisions at the ordinary market prices, and divides the net profits among them according to the degree they patronize it. The object is to give the men good articles for cash at moderate prices, and to keep them away from the small stores and from buying on credit, and from schnaps buying. It was opened in August, 1885, and the monthly sales amounted to $3,000 to $3,500 a month, and a net profit would accrue, it was thought, for division among the supporters of the store of 5 to 6 per cent.

Heyl's leather factory.—This factory gives $2,500 a year to a fund for the benefit of the widows of the men who have worked in the factory for a term of years, which is raised to $3,500 for the next three years. Whenever any one belonging to the factory dies after ten years' uninterrupted service in it, leaving a widow, she is to receive until her death or remarriage, when her husband has been ten to fourteen years employed in the factory, $15.47 a year when it is the first marriage, and $13.09 in the case of second or further marriages. When the husband has been fifteen or more years in service, then $19.04 and $16.66, respectively, per annum, but the pension is not to be granted when the widow is left in or reaches good circumstances; when the man was forty-five years of age or older, and the woman twenty or more years his junior at the time of marriage; when it is the first marriage, or when she is twelve or more years younger in the case of the second or further marriage; when the widow leads an immoral life; when the deceased has acted in an inimical manner towards his employer. This pension seems to me a pittance, which is hardly worth mentioning.

The factory in question is one of the very largest in Germany in the leather business.

WHAT DOES IT COST A WORKINGMAN WITH A FAMILY TO LIVE?

This is a question which has often been asked the consular corps by the Department and variously answered. The inspector for the Leip-

sic district last year obtained from sixteen heads of workingmen's families, who were designated by their employers as orderly persons, statements of what it annually costs them to live, and only in four instances out of the sixteen cases was the income slightly greater than the expenditures, which had to be made up by the wife or other members of the family, or some necessity done without in the twelve other cases.

Five of the detailed statements made are published in the factory inspector's report, and I herewith give them (with the mark reduced to dollars at 23.8 cents to the mark):*

1.—*Expenses for one year of a family of eight persons.*

Items.	Amount.	Items.	Amount.
Bread	$54 45	Local tax and state income tax	$1 82
Butter	26 52	Wood	1 90
Potatoes	11 13	Coal	12 37
Coffee and chicory	9 28	Bed-straw	1 90
Meat	26 18	Bed-clothing and towels	5 71
Milk and curds	6 20	School books and writing materials	2 14
Beer, tobacco, and brandy	2 79	Chimney-sweeper	17
Oil and soap	7 14	Brushes, combs, grease for leather, and blacking	95
Salt	1 07	Mending and renewal of household articles	2 38
Flour	2 38	Shoes	3 57
Wheat bread	10 71	Clothing	3 57
Rice and other vegetables	3 57		
House rent	15 70		
School-tax	4 45		
Dues to invalid fund	3 71	Total	222 81
Insurance against fire	97		

The income was $3.68 a week, making an annual income of $191.82, leaving about $30 to be made up by the family in some way.

2.—*Expenses for a year of a carpenter and his wife.*

Items.	Amount.	Items.	Amount.
Corporation tax	$3 83	Coffee	$8 63
State tax	1 98	Barley	1 23
House rent	35 70	Milk	6 18
Tax on personal property	59	Fuel	18 56
Dues to invalid fund	5 32	Soap	6 18
Pocket money	30 94	Coal-oil	2 47
Clothing and shoes	9 90	Oil for burning	2 47
Bread	24 75	Thread, yarn, and needles	1 23
Butter	37 12	Matches	23
Salt	1 23		
Flesh	24 75	Total	235 76
Vegetables	12 37		

In this case the income was $4.83 a week, or $251.23 a year, without missing a couple of day's work.

*In consequence of not carrying the decimals out far enough in the reductions, the total sums will not be in exact agreement with the columns when added up, but are correct.

3.—*Expenses for* 14 *days of a family consisting of a man and his wife and two children, one one and a half years old and the other four, the man earning* $8.56 *every two weeks.*

Items.	Amount.	Items.	Amount.
Six loaves of bread (every two weeks) at 18 cents a loaf	$1 11½	6 segars	$0 05 7/10
Every Sunday morning 8½ cents, worth of rolls, &c	33½	125 grams of smoking tobacco	04 7/10
Every Sunday at dinner ¼ kilogram of meat, at 16½ cents, and meat four times during the week, each time ¼ of a kilogram, at 7½ cents	96	Curd for potatoes	06½
One-half kilogram of suet in the soup	16½	1,250 grams of flour	12
One-half kilogram of fat	19	Dues to factory invalid fund	11½
One-half kilogram of sausage	19	Private fund	06
Potatoes	52	Total 14 days	7 51
8 pieces of butter, at 16 cents a piece	1 33½	For year	195 23
For the smallest child, 3 cans Swiss milk	50	Annually for funeral money	71
Clear sugar, 1 kilogram	19	Straw for beds	95
Loaf sugar, ¼ kilogram	06½	Rent	11 42
Vegetables, 750 grams rice, 750 grams pealed grain, and 750 grams millet	25½	Taxes, including income tax	2 76
One-half kilogram of coffee	42½	Fuel	14 28
1 package wheat coffee	00 9/10	Shoes	8 33
6 herrings, at 2½ cents each	14½	Clothing	21 42
Vinegar and sweet oil	04 7/10	Bed-clothing	3 57
Soap for washing clothes, ½ kilogram	10½	4 glasses of beer on Sundays	09½
Grease for washing clothes, ½ kilogram	08½	Hats, &c	1 19
Soda and starch, 750 grams	10 3/10	House utensils	47
Hair-oil	0 02 3/10	Keeping furniture in good condition	47
Spices	0 02 3/10	Thread, needles, ribbon and buttons	47
Coal-oil	14½	Yarn for making stockings	71
Salt, 1 kilogram	04 7/10	Total annual expenditure	261 87
Blacking and grease for shoes	02 3/10	Income	222 76
		Excess	39 11

This man was a wool-spinner. His beer account, it will be noticed, is all wrong, and ought really to be $4.76 for the year.

4.—*Weekly expenses of a locksmith's family, consisting of himself and wife and two girls, one* 11 *and the other* 13 *years old.*

Items.	Amount.	Items.	Amount.
Rent	$0 71	Vegetables	$0 09½
Fuel	28½	Butter (3 pieces)	50
Taxes	13	Cheese (4 pieces)	06½
School tax	12	Eggs (3)	04 7/10
Invalid fund	15	Flour	06
Fire insurance	02	Salt	01
Reading matter	02 3/10	Vinegar and oil	02½
School books and writing paper	03½	Coffee	12
Clothing	74	Sugar	02½
Shoes	19	Milk	08½
Bed-clothes and towels	07	Beer	16½
Yarn, thread, and ribbon	04 7/10	Total	5 41
Soap and soda	09½	For year	281 30
Coal-oil	08½		
Blacking and matches	02 3/10	The average income for six years past was	285 00
Bread	47		
Meat (½ of a pound daily)	71		
Potatoes (2 pounds a day)	19		
Pulse	12		

5.—*Expenses of a dyeing master for two weeks, having for a family himself and wife, two sons, one learning to be a joiner and the other still going to school, and a daughter.*

Items.	Amount.	Items.	Amount.
7 loaves of bread, 4 kilograms to the loaf, at 18 cents	$1 26½	Annual funeral dues	$0 86½
Small rolls	29½	Taxes	2 57
Flour	23½	Fuel	14 28
8 pieces of butter, at 16½ cents	1 33	Bed-straw	71
7 liters of milk	13½	Shoes for all	11 90
5 eggs	07	Clothing and hats	23 80
Cheese and curds	13½	Keeping furniture and utensils in order	71
Fat, suet, and lard	85⅞	School expenses	10 71
Sausage	14½	Postage	14
Potatoes, ½ of a centner	50	Total for year	65 81
2 kilograms of meat	61		
Dried and green vegetables	47½	Grand total for year	254 03
Salt and spices	12		
Coffee and sugar	57	His wages amount to $8.568 for every two weeks, and annually (deducting 12 holidays)	214 14
Herrings, vinegar, and oil	14½		
Coal-oil and rape-oil for light	19	Rent from a factory girl living in the house	10 23
6 liters of beer	17		
Thread, ribbon, buttons, and needles	09½	Entire income for year	234 37
Blacking and grease for shoes	02½		
Factory invalid fund	11½		
Private invalid fund	06		
Total for two weeks	7 23½		
Total for year	188 11		

No rent is included in the above statement, because his daughter, grown up, pays for it with money earned by sewing, but he boards her free of charge.

The working people of Germany, such as these, lead no rosy life, it can well be seen, but they are very trifling, it must be said, so far as I have observed them; and it seems hardly right that they should have to pay local and state taxes out of their scanty earnings, as well as a school tax where there are children.

The United States consul at Mannheim, Mr. Monaghan, in a recent brief report published by the Department of State on the cotton industry of Baden, has made some remarks respecting the manner in which the cotton-mills are run, which are so applicable to very many branches of industry in Germany in their general bearing, altering the language to suit the particular occupation in each case, and are so fitting to a report like this, that I cannot forbear quoting them as a conclusion to the foregoing abstract of the factory inspector's report for 1885, as an illustration of factory life in general in Germany:

In the manufacture of cottons the Germans are far behind the Americans in men, methods, and machinery. One is surprised to find old machinery, rejected in America twenty years ago, used here to-day; to see work done by hand slowly that machines in America do infinitely better, quicker, and cheaper; to see girls doing work that men should do.

I visited the cotton-mills with a view of comparing. In the largest concern in Baden I went from the storehouse of raw cotton to the rattling looms, and found in the "picker-room" eight machines doing the same work that four do in a United States cotton-mill; women doing the same work that men do with us. All the hands in the "picker-room" were women with the exception of one.

In the carding-room are old machines, old methods. In the spinning-roon were three, four, and five girls doing what one little girl does in America, namely, here one little girl attends "two sides" and has work enough on an old machine; with us a little girl attends six, eight, or ten "sides." Mule-spinning-room, a man thirty-five years, two young men eighteen and twenty years of age, doing what one young man eighteen to twenty may be found doing in every cotton-mill from Rhode Island to Georgia, namely, tending one pair of mules as large as William Mason's single or Parburte's English mules. These three persons together get about the same pay as the young man in America, namely, 2½ marks to the man, 1½ each to the young men, making in all about $1.35 a day. In the spooling and warping rooms, old machines. Here also

one may see young woman making harnesses for the looms by hand. Most of the machinery is of old English make.

The help are all Germans; range in years from thirteen to fifty years. They were apparently rugged and healthy. They work about twelve hours per day; these hours are broken up in such a way as to be conducive to the people's health;* for instance, a quarter of an hour at 9 o'clock a. m. for a lunch and mouthful of fresh air; "dinner time," 12 m.; and again lunch of black bread and fresh air at 4 p. m. They go into the mills at 6 a. m. and get out at 7 p. m. You will observe that this industry is scattered over the land, just the opposite to the American manufacturing plan, which centers its cotton business in a few cities. * * * The living, if living it can be called, is very poor. Black bread, potatoes, in summer a few greens, dandelions, &c., gathered in the fields.

In many New England factory tenements you would find a well-arranged, well-stocked kitchen; neat, well-furnished bed-rooms; a parlor or sitting-room, with a neat carpet, a piano or house organ, a few shelves of books, usually good ones; stuffed chairs, covered with horse-hair; a bed-room for every two members of the family. It is not claimed that this is universally so, but in many factory villages familiar to the writer it is so, * * * villages that would appear like Baden Baden compared with factory villages here, where not infrequently, I am informed, a whole family will occupy one room, where a piano or organ, carpets, &c., do not come into the dreams of the toilers; yet they seem a music-gifted people.

Labor is too inert here.

JAS. HENRY SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, November 30, 1886.

RUSSIAN PETROLEUM TRADE.

REPORT OF CONSULAR AGENT CHAMBERS, OF BATOUM.

BAKU.

I have delayed giving information concerning the Russian petroleum industry because of the great difficulty I have experienced in obtaining reliable statistics regarding the business. Not that there is a lack of statistics, for, on the contrary, their volume is bewildering, especially when one tries to make those emanating from different sources agree.

There are several places in Russia where petroleum has been found, but there is only one place where it has been found in such quantities as to threaten serious competition to the American product, and that is in the Baku district, so called from its proximity to the town of Baku. This town is an ancient walled Persian town, but has been in the possession of Russia for many years, and is situated upon the shore of the Caspian Sea, 400 miles south of the Volga River, and 560 miles by rail east of Batoum, on the Black Sea. The city, it is claimed, has a population of more than 60,000, or about five times as great a population as it had in 1870, and is still growing. It is also improving very much in appearance. The old walls are being gradually removed (but it will require many years to entirely obliterate them) to make room for modern (for Russian) buildings and good streets. The streets are being paved with fine cobble-stones, which renders unnecessary their former treatment several times each summer to a good dose of "mazoot" (petroleum residuum) to keep the dust and sand from suffocating the inhabitants. The paving is well done, but not sufficiently well done to prevent the

* In my opinion it is a dilly-dallying way of working.—J. H. S.

occasional high winds from tearing up the stones, or the sudden flood from washing them away.

The climate is tropical and the population largely Asiatic—Tartars, Armenians, and Persians. Only an insignificant proportion of the population is European, and that is thoroughly mixed, as every European nation is represented; and there are also a few Americans.

The industry of the city is, of course, petroleum in all its branches, but as it is the principal port of the Caspian Sea, it has also a considerable trade in rice, grain, and other Persian products.

The country about Baku, as far as 250 miles west, is very dry and burned looking in summer, with a soil similar to that of Southern California, in the valleys, which produce fair crops of grain, usually harvested in June. It is interspersed with hills totally barren, and salt lakes. There are also small lakes or ponds of fresh water, very far apart, in the vicinity of which there is always more or less vegetation. Fresh water, or what is accepted for fresh water in Baku, is very scarce and expensive, as it is carried to the city from a distance of 4 or 5 miles in large earthenware jugs upon the backs of small donkeys.

THE PETROLEUM FIELDS.

The great petroleum producing district is about 8 miles north of Baku, and is called Balakhani, taking the name of the Tartar village near it. Different parts of the district are known by other names, such as Sabunchi on the south, the Garden on the east, and Shaitan Bazar in the center; and local statisticians have again subdivided the fields into groups, of which there are 17 in the Balakhani district and 1 at Surakhani, about 5 miles southeast of the main district. At Surakhani there have been 23 wells drilled, the last one I think about the year 1879, but I find no estimate for the production of these wells, and I understand that they have produced little or no oil for several years. There is also a large refinery at Surakhani, which is supplied with crude oil by pipe-line from Balakhani.

Between 2 and 3 miles south of Baku, on the sea-shore, is another producing district, the area of which, as at present divided, is very small, called Bibi-Eibat. Twenty-two wells have been drilled here, and 14 of them were producing in July. In September one of those wells was drilled deeper, resulting in a large flow of oil. The production of this well, it was claimed, was from 30,000 to 40,000 barrels (42 gallons) per day for fifteen days, after which it ceased to flow entirely. This well was less than 700 feet deep, but it was the deepest well in the Bibi-Eibat district, and had been producing from a shallower depth for two years. There is also a large and very modern refinery at this place.

HISTORICAL NOTES.

Petroleum, or "neft," as the Russians call it, was known to exist in the vicinity of Baku hundreds of years ago, but the earliest records of production are from the years 1821 to 1825, in which years the Government revenue from petroleum was 31,000 rubles. In 1832 the production was about 750,000 gallons. Since 1832 a record of the annual production has been kept, which record shows a very small increase until the year 1870, when the production reached 3,500,000 gallons. The business until 1873 was a Government monopoly, held at various times by different people, the last holder being an American named Mirzoeff,

who at that time was a very wealthy man, having, it is said, made his fortune out of the monopoly. The production was also subject to an excise tax, which must have been a heavy charge upon the industry, as the amount of this tax from the year 1873 to 1877 was more than $1,000,000 on a production approximating 200,000,000 gallons.

The monopoly was abolished in 1873, the business thereafter being open to all who wished to engage in it, and after September 1, 1877, the excise tax was also abolished.

The commercial era of the business dates from the year 1876, when the Nobel Bros., a trio of Swedish engineers, commenced operations. These gentlemen, by remarkable energy, enlisted an immense amount of foreign capital in this business, and to them certainly belongs the honor of building up, from a very insignificant beginning, what to-day is the greatest producing and manufacturing business in Russia.

DRILLING WELLS.

The area of what is considered sure-producing territory at Balakhani is between 3 and 4 square miles. The surface of this territory is loose sand, and the soil is the same as deep as the drill has penetrated, but is interspersed with thin strata of sandstone and solidified clay, which when brought to the surface, are to all appearance heavy rock, but which can be readily cut with a knife. Owing to the caving of the sand, and the occasional striking of hard, loose stones, which invariably makes what is called a "crooked hole," a very serious obstacle for drillers to overcome, the drilling is exceedingly difficult and expensive. The caving makes the use of iron pipe from the start to finish of the well a necessity. The wells are usually started with heavy riveted pipe (14 to 16 inches inside diameter), which is inserted by driving or with hydraulic jacks, after drilling ahead with a bit larger than the pipe. The large pipe is continued until it collapses at the bottom, or for some reasons refuses to go further, when another pipe is started small enough to go inside of the first one, and is continued as long as possible, and then again reduced until the oil is found and the well finished, which is usually done with 8-inch pipe. Owing to the necessity of deeper drilling now than formerly, it is becoming necessary to start the wells with a larger size pipe, and Messrs. Nobel are now preparing to commence all new wells with 24-inch pipe.

Russian and German iron is used for the large riveted pipe, and the smaller sizes of pipe, from 10 inches down, which is lap-welded, is also principally German. In the past year efforts have been made to introduce American pipe and oil-well supplies, which are unquestionably the best in the world, owing to the longer experience of the American manufacturers, and which can be sold in Baku at very little advance upon the prices of other material there. Now, however, these efforts have been relaxed or entirely abandoned. The long credits absolutely necessary to buyers of exceedingly doubtful commercial integrity, and the time required for transportation from America made the business of no value to the Americans.

All kinds of machinery and tools are used at Balakhani. A majority of the drillers use pole tools, but a few are using ropes, as in America. The progressive operators are using either American-made engines or engines made in Russia from American patterns. American machinery is, of course, very expensive, as the freight and Russian duty almost double the American price.

COST OF WELLS, AND NUMBER.

The cost of a well at Balakhani varies with the depth to a certain extent. At the present time I think it impossible to drill a well from 700 to 1,000 feet for less than $10,000, and a fair average price is about $12,000. This does not include the cost of the land, which belongs generally to the operators, although some leases at a royalty of one-third of the production are held. The land belongs to different parties, but a great deal of it was originally Government land. The leases obtained from the Government were generally at a merely nominal rental or royalty, although land purchased in fee cost much more than it can be had for at present. Now, however, the Government will neither rent nor sell any more land, and it holds quite a large tract in the center of the field, which has not yet been drilled upon. The length of time required to drill a well is also uncertain, as it is from three months to three years; but I think about six to eight months the average time.

Comparing numerous sources as to the number of wells drilled at Baku, I believe the following was nearly correct in January this year:

Producing wells	164
Drilling wells	104
Abandoned wells	200
Total	468

The term "drilling wells" does not mean that work is being actively prosecuted, but that these wells are reported as in various stages of work, *i. e.*, unfinished.

Since the above figures were obtained, I have seen the number of producing wells estimated at 185, but as that was in September, it is quite probable there were a number of new wells completed since January.

An estimate of the production of these 164 wells, based, it was claimed, upon reports from their owners, was 58,000 barrels (of 42 gallons) daily. Considering the number of holidays in Russia, and the fact that for several months in winter, owing to a lack of transportation facilities, the Volga River being closed by ice, the wells are very irregularly pumped, this estimate is a fair one. Estimating, however, the refined exported at 30 per cent. of the crude, and adding the small amount of crude shipped, will not give more than 31,000 barrels per day as the average daily crude production for 1885.

DEPTH OF WELLS.

The depth of the wells varies from 175 to 1,030 feet, there being only one well of the latter depth, and I am not positive that it is producing profitably. The average depth of the wells is steadily increasing, and is now said to be 500 feet as against 350 feet in 1882. The average depth of new wells is, however, more than 500 feet. I think it is over 600 feet. By many it is claimed that the increasing depth of the drilling is proof positive of the exhaustion of the territory, and that the depth of the drilling increases 50 feet for every 500,000,000 gallons of crude taken out, but I have seen no calculations as to the depth of the lower strata of oil. Others claim that both the yield and the quality of the crude improves with deeper drilling, and that the territory will continue to produce from much greater depths. From my own observation, I am inclined to believe that the quality of the crude as an illuminant improves as the drilling gets deeper, but as to the increase in the

yield I am doubtful. The following figures are given as a comparison of the yield of various parts of the territory at different depths:

Locality.	Depths of wells.	No. of wells.	Daily production of each well.
	Feet.		*Gallons.*
At Balakhani	175 to 280	7	7,855
	280 to 350	7	17,000
	350 to 420	9	17,000
	420 to 490	13	17,560
	490 to 560	4	16,000
	560 to 630	2	25,000
Group V.—(A very rich section on the north of the field)	245 to 350	12	11,000
	350 to 420	6	13,300
	420 to 490	3	10,500
	490 to 560	.....	No wells.
	560 to 660	2	25,000
	630 to 730	1	60,000
Sabunchi	350 to 420	8	15,435
	420 to 490	8	14,685
	490 to 560	.....	No wells.
	560 to 630	2	22,500
Shaitan Bazar	175 to 280	6	8,330
	280 to 350	.....	No wells.
	350 to 420	2	10,000
	420 to 490	2	15,000
	490 to 630	.....	No wells.
	630 to 700	1	60,000

This is intended to show a general increase in yield in all parts of the field from deeper drilling, but the fact that the shallow wells are all old, while the deeper ones are comparatively new, must not be overlooked, and while it does not make it perfectly clear that the deeper wells are more productive than the shallow ones, it certainly shows no exhaustion of the territory.

FLOW OF WELLS.

When Balakhani oil-wells do not flow they are pumped with what is called in in the American oil-fields a bailer, *i. e.*, a piece of pipe from 15 to 30 feet long, fitted with a valve at the bottom. This pump is dropped into the well by means of a rope and drawn out by steam-power (the weight of the valve and the oil upon it keeping it closed while the pump is being drawn out), and emptied into a small receiving-tank on the derrick-floor, from which the crude flows through a wooden trough or dirt ditch into the main reservoir. The pump or boiler used varies according to the size of the well-pipe, as it is made of a pipe to run freely inside of the well-pipe but; they are much larger than those commonly used in America, and hold from two to ten barrels each.

Many of the wells flow naturally and with great force when the crude is struck. The flowing wells, or, as the Russians call them, "fountains," are fitted upon the top of the well-pipe with a gate or slide valve, and upon the top of this valve is an elbow of the same sized pipe as the well-pipe, which directs the flow, when the valve is opened, horizontally into the trough or ditch. Many of these fountains can be opened or closed at will. If oil is required they are opened, and the oil allowed to flow until the necessary quantity is obtained, when they are again closed. This, of course, is a great advantage, the well itself answering the purpose of an always-full tank or reservoir.

The quantity of crude produced by some of these flowing wells is incredible to those who have never seen one of them flowing. Fortunately I have seen several of them flowing, and were I to give the estimate I formed of the amount of their production, it would exceed the actual amount of their production considerably. Through the kindness of Mr.

Törnüdd, the general manager of Nobel Bros. for the past five years, I am enabled to give figures regarding the production of several of the largest wells which are absolutely correct.

The most productive well ever drilled at Balakhani was Nobels' No. 15. This well, while it did not flow so furiously as many others, flowed steadily the full size of the pipe (8 inches) when opened for years. It was handled just as a large tank would be, only opened when oil was required. I do not know the exact length of time it produced profitably, but its total production was over 1,800,000 barrels (42 gallons). Nobels' No. 9 was another large well. It was the largest well ever struck for the first nine days, as it flowed that length of time steadily a solid column of oil the full size of the pipe (8-inch) to a height of two to three hundred feet. The estimated production of this well for the first nine days was 50,000 barrels per day, and its total production for the 32 days it flowed was over 900,000 barrels. Last June, Nobels struck a well, No. 32, which was the most difficult to control they ever had. This well was finished with 8-inch pipe, and after it had flowed furiously for a day or two they succeeded in shutting it off by using four 8-inch gate-valves on the top of the pipe. They then worked a week strengthening the derrick, by using heavy timbers from the tops of the valves to the sides of the derrick and other timbers across the derrick, until they had the derrick a mass of heavy timbers.

While this work was being done the valves commenced to leak, and the well was producing oil faster than it could be pumped away through two lines of pipes, one 3-inch and one 4-inch. They finally added a 6-inch line, with a large pump, to their pipe-line capacity, and then attempted to open the valves. In a very few minutes the valves and almost all of the net-work of timbers in the derrick were blown away, and the well flowed terrifically for several hours, not oil, but stones and mud. It flowed intermittently dirt and stones and oil for about fifteen days, when it quit entirely, having produced over 100,000 barrels of oil. All the large wells have stopped flowing in the same abrupt manner, and the same cause of stoppage is assigned to all of them, viz, the collapsing of the pipe at the bottom of the well.

The pipe in this well (No. 32) was American, and it was hoped that it would stand the test, the first of the kind, imposed upon it, as it is certainly much superior to any of the other pipe used here; but these hopes were not realized, at least not fully, for although it did not stand this test entirely, it stood it for 15 days, and it was a much more severe test than any other pipe has been given. The depth of this well was 860 feet, and at that time it was the deepest producing well in the field.

The length of the profitably producing life of Balakhani wells varies greatly, and an average is unobtainable. As I have already shown, some produce for years, while others last only days. They do not seem to affect each other's production, even when within a few feet of each other and producing from about the same depth. The oil contains a great deal of sand, and some of the flowing wells throw out immense quantities of sand with the oil, sufficient in several cases to completely bury the engine-house and outhouses in their vicinity.

I am again indebted to Mr. Törnüdd for the following information regarding the production of the wells of Nobel Bros.

Nobel Bros. have drilled 74 wells in the Balakhani district, of which number 32 are now producing. Of the 74 wells, 22 have produced over 115,000 barrels (42 gallons) each, and the aggregate production of the 22 wells to September was over 7,600,000 barrels, an average of more than 345,000 barrels each. Eight other wells have produced nearly

100,000 barrels each, and almost all of the 74 wells have been profitable producers.

HANDLING THE CRUDE OIL.

Iron tanks for crude oil are but seldom used, as is also iron pipe for conducting the crude from wells to reservoirs. Instead of iron pipe, wooden box-troughs or dirt ditches are used for the latter purpose, and reservoirs are made by excavating the ground in the vicinity of the well, or by simply throwing up walls with the sand that has been thrown out of the wells. Of course there is a loss from the ground absorbing the crude, but the price is so low that this loss is insignificant. From the reservoirs the crude is pumped through pipes to the refineries, which are located on the sea-shore, about two miles east of Baku, at Chornai-Gorod (Black Town).

The specific gravity of Balakhani crude oil varies, but not sufficiently to make any difference in its value, so that it is all run together, forming a crude of about 0.865 specific gravity, or 32° Beaume. It contains no paraffine, and very little benzine is made from it, none of which is lighter than 0.700 specific gravity. As I have said before, I think it exceedingly probable that the crude will be of a less specific gravity as the drilling deepens, as I find the oil from Nobels' No. 32 about 0.850 specific, or 34½° Beaume.

The distance from the wells to refineries is about 8 miles, and as the average elevation of the wells above the Caspian Sea is 175 feet, the piping of the crude is not at all difficult. There are now 14 pipe-lines, from 3 to 6 inches in diameter, and belonging to thirteen different owners. The pumps used are either of American manufacture or made in England or Russia from American patterns, with the knowledge and consent of the American manufacturers and patentees. The latter, I am informed by men of experience with both kinds, are by no means as good as those made in America, and I have heard surprise expressed at the American manufacturers allowing their machinery to be so indifferently constructed in England and Russia.

The aggregate daily capacity of the fourteen pipe lines is about 100,000 barrels. The nominal pipeage charge is 1 kopeck per pood (about 4 cents per barrel), but the pipe-lines are generally owned in connection with both wells and refineries.

PRICE OF CRUDE OIL.

The following figures, although not very complete, will give some idea of the prices for crude at wells per barrel of 42 gallons in the past five years:

Date.	Price.	Date.	Price.
	Cents.		*Cents.*
January and February, 1881	12⅜	June, 1884	14 7/10
April to June, 1881	7 7/10	July and August, 1884	16½
July, 1881	6 3/10 to 10½	September, 1884	14 7/10 to 16½
August, 1881	9 9/10 to 12⅜	October to December, 1884	9 7/10 to 10½
September to December, 1881	8⅜ to 12⅜	January, 1885	8⅜ to 10½
January to March, 1882	12⅜	February, 1885	14 7/10
April to October, 1882	10½ to 12⅜	March and April, 1885	16½
November to December, 1882	8⅜	May and June, 1885	12⅜ to 16½
January to March, 1883	8⅜	July, 1885	16½
April to July, 1883	4½ to 8½	September, 1885	10½
August to November, 1883	2 1/10 to 6 3/10	October to December, 1885	8⅜ to 4½
February to March, 1884	4½ to 7 7/10	January to March, 1886	3 3/10 to 4½
April and May, 1884	7 7/10 to 8⅜	April to June, 1886	8⅜ to 10½

The price of crude oil at wells at present is variously quoted at from $2\frac{1}{16}$ cents per barrel, with no buyers, to $8\frac{3}{8}$ cents, and a good demand. Some sales have recently been made for next year's delivery at prices as low as 4 cents per barrel at wells. It is always difficult to quote a price for either crude or refined, as there is no regular market, and a transaction can never be called closed until the oil and money have actually changed hands. The prices are always governed by the financial necessities of the parties to the transaction, and consequently a wide difference in the prices at which different transactions are made at the same hour are often noticeable. Contracts for future delivery are common, but very uncertain, as it requires great care and knowledge of Russian law to make such contracts binding. It is not an uncommon thing to hear of some of the heaviest dealers declining to fulfill a contract because of a very small difference against them, and the majority of the smaller dealers always refuse to fulfill a contract when the difference is against them, if there is any chance to get out of it.

TEST WELLS OR EXPERIMENTAL BORINGS.

Americans familiar with the business of petroleum production will undoubtedly be surprised to know that no important efforts have yet been made to extend this apparently small field, *i. e.*, that very little test-well drilling, or "wildcatting," as it is called in America, has been done. From the fact that oil in profitable quantities is found at Bibi Eibat, 11 miles south of Balakhani, it is a reasonable deduction that oil may also be found between the two points, but until now no efforts have been made to practically demonstrate the correctness of this theory. West of Balakhani from 5 to 8 miles some wells have been drilled, but not deep enough to be of any use as a test of the territory; and southeast at a place called Zikh, the Nobel Bros. are now drilling a well which is nearly 2,000 feet deep. The country surrounding Balakhani, upon the surface, certainly shows as favorably for petroleum as does that district itself. Six or 7 miles southeast is Surakhani, the location of a very ancient monastery of the fire-worshippers of India, a building now in ruins, but which is yet occasionally occupied by a few of these religious enthusiasts, who make a long and weary pilgrimage on foot from India to do homage at the shrine of everlasting fire, which is merely a small jet of natural gas, now almost extinct. At this place a little petroleum was formerly produced, and natural gas has escaped from fissures in the earth for centuries. The supply of natural gas here is greatly reduced now, of course, but for years the refinery at Surakhani used it for fuel, and is still burning a little.

West of Balakhani are large salt lakes in winter, but which in summer are dry, and surrounding which are broken ranges of hills from 50 to 250 feet in height. A number of these hills are known as mud volcanoes, from the fact that at some time in the past they were in a state of eruption, and threw out great quantities of mud. The evidences of these eruptions are still visible, consisting of mud, covering the hillsides, but no eruption has occurred in the last nine years.

The Russian producers explain their apparent lack of faith and energy in not seeking fresh territory by pointing to the self-evident facts that they have now more oil than they know what to do with, and that the sure territory is by no means exhausted. From my own observation I believe they have yet sufficient space within developed lines for 500 or 600 more wells. At the last congress of the petroleum interests, held at Baku (March, 1886), preparations were talked of for future experimental

borings, and I am informed that several test wells will soon be started at some distance west of Balakhani. It is proper to add here that some dry holes, or very small wells, have been drilled within the lines of what is called sure oil-producing territory, but these, of course, were exceptions, and the territory inside of these lines is reasonably sure.

THE REFINERIES.

The refineries, with the exception of three, one at Bibi-Eibat, one at Surakhani, and one in the town of Baku (the latter having been idle for some months owing to the financial difficulties of its owners), are all located at Chornai-Gorod, are exceedingly numerous, and of every description and capacity, from the immense modern works of Nobel Bros., capable of turning out 6,000 barrels of refined oil every twenty-four hours, down to the primitive 10-barrel still, inclosed in a little stone hut, of the Tartar refiner. The total number of refineries is generally said to be more than two hundred, but the statisticians seem to consider only about 136 as worth mentioning, as follows:

	No.	Stills.	Daily capacity.
			Gallons.
Large refineries	12	216	747, 500
Smaller	15	115	159, 050
Small	109	210	315, 000
Total	136	541	1, 221, 550

In the official returns for the year 1885 only 87 refineries are mentioned, as follows:

Production of refineries.

[In gallons.]

	No.	Refined oil.	Lubricating.	Benzine.	Total.
Large refineries	10	123, 898, 430	7, 337, 500	205, 000	131, 440, 930
Small	77	36, 598, 635	2, 675, 000	.....	39 273, 635
Totals	.....	160, 497, 065	10, 012, 500	205, 000	171, 714, 565

The following are the official figures for the actual output of petroleum products from Baku for the last five years (in gallons):

	1881.	1882.	1883.	1884.	1885.
Refined	58, 171, 425	62, 898, 860	59, 639, 400	108, 609, 85 5	131, 613, 925
Other products	59, 467, 110	99, 498, 910	85, 541, 305	154, 511, 8 5	174, 637, 070
Total	117, 638, 535	162, 397, 770	145, 180, 705	263, 121, ' 10	306, 250, 995

Of the above the following amounts were exported, 1883: 1,934,670 gallons; 1884: 25,284,720 gallons; 1885: 35,000,000 gallons.

The estimate given of the capacity of the 136 refineries is no doubt reasonably correct. Owing, however, to the numerous holidays in Russia, and the impossibility of doing anything for several months in the winter, for causes already explained, the maximum annual capacity

of these refineries would hardly be more than two hundred times their maximum daily capacity, as two hundred working days in the year is a fair estimate for this country. This shows an abundance of refining capacity, as the product of the refineries in 1885 was not more than half of this estimate.

METHODS OF REFINING AND PRODUCT.

The method of refining petroleum at Chornai-Gorod is substantially the same as in America. Smaller stills are used than are used in America, and they can be "run" oftener. The stills used in the more modern works are generally of about 125 barrels (42 gallons) capacity, and with this size still three to four runs every twenty-four hours can be made, as only 25 to 35 per cent. is run off, the residuum being fluid and easily run out of these stills into smaller ones, from which another distillate is taken off for solar and lubricating oils, consequently there is no necessity of cleaning the stills after every run, and they last for years. The cleaning and deodorizing of the distillate is done in the American manner, but requires more chemicals than the American distillate.

The average yield in merchantable products of Russian crude petroleum is very difficult to ascertain, every refiner obtaining, apparently, different results, and very few refiners keeping accurate records of those results; consequently I can only take the figures at which numerous contracts have been made for an average, *i. e.*, 3½ poods of crude for 1 pood of refined, or about 28½ to 29 per cent. Nobel Bros. claim to be able to take 35 per cent. illuminant from the crude, and say they can get a still greater yield, but the expense will not justify it at present prices for crude. But Nobels are always experimenting, with the assistance of able chemists, and I am sure no other refiner gets such a large yield of refined oil from the crude.

TEST.

There is no legal fire-test for refined petroleum in Russia, consequently the refiners make just such goods as they find most profitable, and many of them, in fact almost all of the smaller refiners, find it profitable to make very bad oil. Russian bad oil, however, differs materially from American oil of an inferior quality, because it can be handled without danger, as the higher the fire-test the greater the yield of so-called illuminant. Refiners working for present profits only, make generally a very high fire-test refined, some of it so high that it cannot be burned in an ordinary lamp. The larger refiners whose interests are of sufficient importance to make them look forward to establishing a permanent business, and consequently a good reputation for their products, adopted some years ago, by mutual agreement, the standard test of 25° C., or about 76° F., for their illuminating oil, believing that to be a sufficiently high test for safety and good burning qualities. Lamps for burning Russian refined have been greatly improved in the past few years, and it is now thought that a higher test oil can be used. Consequently in March last the Russian authorities notified the Baku refiners that after a date to be thereafter fixed all refined must be made 28° C. fire-test, but the date for this to take effect has not been fixed up to the present time.

I have been unable to ascertain the exact wording of this order regarding fire-test, and cannot be sure if it is intended to provide against a higher or a lower test than 28° C. (about 81° F.). Without a provision against a much higher test than 28° C. it seems as if little protection against bad refined would be gained. There would apparently be

no object in making a lower-test refined from a crude of 0.865 specific gravity, yielding less than 1 per cent. of benzine (spec. 0.690). Only a few weeks ago a leading refiner declared in my hearing that he would prefer a test of 50° C. to 28°.

QUALITY OF THE OIL.

Even here in Russia there is a great difference of opinion as to the relative merits of Russian and American illuminating oil, and while it is not generally asserted that the Russian refined can be made as good an illuminant as the American, there is no doubt that it can and is made to burn quite good enough for all purposes, and emits no disagreeable odor while burning.

After taking from Russian crude oil, say 30 per cent. illuminating distillate, about 15 per cent. is taken from the residuum, which is called "solar oil," and which, although a nice-looking white oil, is too high fire-test to burn in ordinary lamps, and not sufficiently good for lubricating purposes. This is generally mixed with the "astatki," or crude residuum, although the last Baku congress of petroleum people "*Resolved* that its use should be made compulsory for the purpose of lighting public buildings, theaters, circuses, hotels, &c., that the use of kerosene (refined) should be prohibited in such buildings, and that the ordinary restrictions applied to mineral oils in transportation, storage, &c., should be taken off solar oil, and it placed in the same category with vegetable oils." This is, however, only a petroleum producer's resolution, which will be understood no doubt in America. After the solar oil is taken, the lubricating oil distillate is taken off, and varies from 20 per cent. to 25 per cent. From this distillate a very good lubricant is made, as it is affected neither by intense heat nor great cold. The lubricating oil is made in Baku, but great quantities of the distillate are also shipped to England, France, Belgium, and Germany, and there purified and made into lubricating oils. After the foregoing proportions are taken from the crude, the residuum, down to about 15 per cent. of the whole is taken off, and generally mixed with the solar oil. This is called "astatki" or crude residuum, and is the fuel of Southeastern Russia. As the Caspian and Volga steamers, many of the railways in Eastern Russia, and the Transcaucasian Railway use it for fuel, there is a great demand for it, and it sells at an average price of $\frac{1}{10}$ cent per gallon free on board cars or steamers at Baku. The 15 per cent. left in the still is called "mazoot," and, as it will not burn, is a total waste. A few years ago it was used in limited quantities to sprinkle the streets of Baku, which was a very good idea from a sanitary point of view.

Estimated as above, the yield of Russian crude in merchantable products is about 85 per cent., as follows:

	Per cent.
Illuminating oil	30
Lubricating oil	20
Solar oil, Astatki (crude residuum)	35
Waste	15
Total	100

MARKETING OIL.

The great market for Russian petroleum is of course Russia itself, where it is protected from American competition by a prohibitory tariff. The Russian markets are reached principally by water transportation,

via Caspian Sea and Volga River, to the eastern termini of the Russian railways, and thence by railway. Barrels were formerly used for the transportation; several barrel factories were erected at Baku and one at Tsaritzin on the Volga. The machinery in these factories is principally of German manufacture, and when made was probably as good as any in America. Now, however, it is not up to the American machinery for the same purpose. Labor was, however, cheaper than steam, and the steam barrel-works were a failure. Timber for barrels was always expensive, and the increased demand which came with the increased production made some other method of transportation absolutely necessary, and the result was the construction for Nobel Bros., in Sweden, of a steamer to carry petroleum in bulk, which proved a great success, and completely did away with the use of barrels in the Baku trade. Nobels now have thirteen of these steamers in service, carrying from 4,000 to 6,000 barrels each, all of which were constructed in Sweden and brought from the Baltic Sea via canal to the Volga River. The short locks in the canal necessitate the steamers being constructed so as to be taken through in two pieces and again joined together when the Volga is reached. This method of getting the steamers to the Caspian is of course very tedious and expensive, notwithstanding which there is now a large fleet of them in service.

The petroleum products are carried in these bulk steamers to a point at the mouth of the Volga River called "Davit Foot" (meaning 9 feet of water), about 400 miles north of Baku and 90 miles from Astrakhan, where they are transferred into barges which are towed by small steam tug-boats to the various distributing points on the Volga, where tanks have been constructed for their reception and arrangements made for railway shipments. The chief distributing point upon the Volga is Tsaritzin, about 350 miles from Astrakhan, but there is also tankage at Saratof, Kazan, and Nijni-Novgorod. From these points it is distributed all over Russia in tank-cars. Some is also exported to Germany via Riga and Libau (by sea), Eidtkunen by railway, and to Austria via Warsaw and Brody and Pod Volochisk. Owing to the gauge of the Russian railway system being 5 feet, while that of the continental railway system is the "standard" gauge, another transfer of the oil must be made at Eidtkunen for Germany, and at Warsaw, Brody, and Pod Volochisk for Austria.

The number of tank-cars in service upon Russian railways north of the Caucasus is 2,500, or was a few months ago, as the number is constantly being increased. The tank-car is of the same style as the modern American tanks, but of uniform size and capacity, holding, nominally, 600 poods, although usually taking 660 poods or about 3,300 gallons.

Previous to the year 1883 all petroleum products were shipped from Baku by water. In that year the completion of the Transcaucasian Railway provided another outlet via railway to the Black Sea. Two ports on the Black Sea, Poti and Batoum, were available for the export trade, but Batoum was selected by this trade because of the superiority of its harbor and the advantage of its being a free port. The railway company provided tank-cars to the number of 475 in 1883, and iron tanks were erected at Batoum. A can and case manufactory, with a capacity of about 7,000 cans and 3,500 cases per day, was erected by a large refiner of and dealer in Russian oil, the machinery necessary, together with the workmen to put it in running order, coming from America. Others also started to manufacture cans and cases by hand, and the business increased so rapidly that in 1884 and 1885 the railway company added 750 more tank-cars to its rolling stock, and will, I under-

stand, put on a number of new tank-cars this year. Owing to the high price of American petroleum in the Levant during the years 1884 and 1885 the Batoum dealers had a large and increasing business at good profits in the Levantine ports. In January, this year, the Russian Transportation and Trading Company brought from Sweden, where it was constructed, a large steamer to carry oil in bulk between Batoum, Odessa, and other Russian ports. This steamer carries about 550,000 gallons, and in the same month another steamer of about the same size took her first cargo of oil in bulk to Antwerp, having been chartered for three years for the trade between Batoum and Antwerp. Since then three more English-built bulk-carrying steamers, taking about 600,000 gallons each, have taken cargoes to Trieste, Fiume, and Hamburg. One other smaller steamer will be here in a few days, which will make the total number in the trade at present six, with a carrying capacity (to the ports for which they are chartered) of 50,000,000 gallons per year. It is said that by the 1st of January next there will be three more bulk-carrying steamers here for cargo, which will add about 15,000,000 gallons to the bulk-carrying capacity.

PROSPECTS OF THE INDUSTRY.

The outlook for the Batoum trade in the early spring of the present year was very favorable. The scarcity of money and the consequent high rate of interest (money is always worth 20 per cent. per annum at Baku, and as high as 50 per cent., it is said, has been paid, and the security must be perfectly good to get it at any rate of interest) had caused a crisis in the trade at Baku, and the prices for both crude and refined oil declined to almost nothing. The price of crude for several months was quoted at 2½ cents per barrel, with no buyers, while refined was sold as low as three-fourths to 1 cent per gallon free on board Baku. Sea and ocean freights were also very low, and this combination of circumstances made it appear almost a certainty that the Russian refined would drive the American article out of the Levant markets in a very short time, and eventually out of many European markets. But, unfortunately for the Batoum trade, this bright outlook was of short duration. In April, in the Levantine markets, which the Batoum people, owing to their proximity, looked upon as wholly their own, the prices of American refined began to decline in sympathy, no doubt, with the declining price of crude in America. At about the same time prices at Baku commenced to advance, owing to the increased demand after the Volga navigation opened. These circumstances did not seem to check the trade here. The railway was pushed to its utmost capacity, new tankage was erected (the total amount of tankage at this port is now about 24,000,000 gallons), pipe-lines were laid to load bulk steamers, the port was crowded with vessels, chartered at ruinously low rates to owners, and until July no decline in the volume of the business was perceptible.

In July came the imperial ukase abolishing the free port at Batoum, making Batoum a regular Russian port, to enter which all imports must pay the high Russian tariff. This was undoubtedly a blow for the can and case industry, as all tin plate used in the manufacture of cans is imported, and the duty upon it almost doubles its cost at Batoum. The Russian authorities intimated that the duty paid upon tin plate would be refunded, when the tin was exported in the shape of petroleum cans, but up until October no arrangement was made for this purpose. In that month the matter was arranged by the custom-house authorities open-

ing an account-current with importers, charging them with duty on tin imported, and crediting them with the amount when the tin is exported in the shape of petroleum cans, the importers depositing Russian gold bonds with the custom-house authorities to secure the credit thus given them. As only gold bonds are accepted by the custom-house, this necessitates a great increase of capital, which it is impossible for many of the small manufacturers to procure. The large can and case factory here has been bought by the Paris Rothschilds, and as they do not lack capital, it is generally believed that they, with perhaps one or two other large dealers, will eventually monopolize the case trade here. At present, while prices are not so high at Baku as in summer, they are fully as high here, because of the limited transportation facilities of the railway. Sea and ocean freights have advanced, and the American prices continue very low in the Levant. These circumstances, together with the increased demand for refined for tank-steamer shipments have caused a great reduction of the case trade in the last two months, and although this trade is now showing signs of improvement, its future does not look particularly bright, from a Russian standpoint. Notwithstanding it is freely admitted that there has been no profit in tank-steamer shipment thus far, new steamers, as I have before shown, are coming into this trade. It will require at least 75,000,000 gallons next year to keep the tank steamers that will then be in this trade profitably employed. In addition to this, the demand for oil for case shipment will certainly increase.

In 1885, as will be seen by statistics annexed, the export from this port was over 31,000,000 gallons, without tank steamers, principally in cases, and shipments to Russian ports were about 8,000,000 gallons more. Therefore it is presumable that the demand at Batoum next year will be considerably over 100,000,000 gallons, and as the maximum carrying capacity of the railway is not over 70,000,000 gallons per year, it seems very clear that the tank-steamer business is already overdone, and that these steamers must either monopolize the trade to the exclusion of the case trade or incur heavy loss. There is not the slightest doubt that this new feature in the business will be, if it is not already, greatly overdone, nor is there any doubt that in overdoing it they will flood the European markets with Russian oil, which they will undoubtedly be compelled to sell at a loss, and thus work great injury to the American trade. With these people the question of competing *profitably* with American petroleum does not seem to be considered. They simply continue the competition until their money and credit are gone, and at present it appears that both their money and credit are at a very low stage. The unfortunate financial condition of the trade is made the subject of much newspaper writing, and petitions of all sorts are sent to the Government asking for assistance in numerous ways. Of course, little attention is paid to these appeals for alms, and it is not at all likely that the Government will assist people who have shown themselves so utterly incapable of taking care of their own affairs as these people. Their only hope, and at the same time their greatest fear, seems to be a monopoly of the business by some great capitalists, presumably the Rothschilds. It is very safe to say that a monopoly of this business will be very difficult to acquire, and at the first attempt at anything of the kind a wail, loud and deep, will go up to St. Petersburg for protection against it.

COUNTERFEITING AMERICAN MARKS.

In the case trade of Batoum, the American trade-marks have been extensively counterfeited, but I am pleased to say only by three or four

of the smaller dealers. The large dealers and refiners have been working with a view of establishing a trade that can be depended upon in the future, and consequently have exported the best refined they could purchase or manufacture under their own trade-marks. The parties who have counterfeited the American trade-marks have always sold under these marks the very cheapest refined obtainable, depending entirely upon the marks to sell the goods, consequently it is not at all surprising that complaints of the quality of American oil have been heard from time to time in the past three years from the Levantine ports. There can be no doubt that most of these complaints were caused by the ignorance of the consumer in being deluded by the almost fac-simile American marks upon Russian petroleum. The American brands most favored by Russian counterfeiters were Pratt's "Radiant" and "Astral." The owners of these brands have recently registered them in Russia, and will, I am informed, soon commence civil and criminal legal proceedings against the parties who have engaged in this disreputable business.

RAILWAY FROM BAKU TO BATOUM.

The railway from Batoum to Baku is 560 miles long, and is an exceedingly expensive road to operate, owing to the heavy grades in crossing the mountains. The highest point upon the road is the Suram Pass, about 135 miles east of Batoum, which is over 3,000 feet above the level of the Black Sea. Upon the west side of the mountain the average grade for 3½ miles is 185 feet to the mile, and 1½ miles of it is 238 feet to the mile. Upon the east side of the mountain there is a grade of 253 feet to the mile, but the greatest grade shown by the official statistics is 238 feet to the mile for nearly 2 miles, while the average grade for 6 miles is 210 feet to the mile. Work will soon be commenced upon a tunnel, or rather two tunnels, a long and a short one, through the mountain at Suram, which when completed will materially lessen the grade. The long tunnel will be almost 3 miles, and, as the contour of the road will have to be changed materially for 10 to 12 miles, it is estimated that the work will require about four years for its completion. There is some talk about the railway capacity being temporarily increased next year by double-tracking the road over the pass, but this would also require a great deal of time and money, and I have been reliably informed that nothing of the kind is contemplated by the company. The railway company is steadily adding new tank-cars to its rolling stock, and it is said that by January 1 there will be 500 more tank-cars in service than at present, while early in 1887 350 more will be put in service by two large refining firms. How much these additions to the tank-car service will increase the petroleum carrying capacity of the railway I am unable to say. It requires about one hour and twenty-five minutes for a passenger-train to cross the Suram Pass, a distance of 10 miles, and for a freight-train nearly two hours; and with a constantly increasing general freight business it would not seem that the petroleum carrying capacity could be increased materially. The price charged by the railway for transporting oil from Baku to Batoum is, at present rate of exchange, about 1.4 cents per gallon, and the yard charges, &c., at Batoum will increase the price to about 1½ cents per gallon.

PIPE-LINE.

For some years there has been a great deal of talk about a pipe-line from Baku to the Black Sea, but until this year it was contended by

well-advised people that a concession for the purpose of constructing a pipe-line would never be granted by the Russian Government, because it had guaranteed the interest upon the bonded debt of the Transcaucasian Railway, and until last year always had a large amount to pay for this guarantee. It was argued that such a concession, which would deprive the railway of a large proportion of its earnings and thus proportionately increase the annual deficit to be made up by the Government, would not be granted.

In April of this year, however, it was rumored in Baku that the Russian authorities had intimated to some of the leading people in the petroleum trade that a pipe-line concession was to be granted, and that a committee of the ministry had been appointed to devise ways and means for the construction of the line. Nothing more was heard of the project until very recently, and now one hears of little else, although the Baku trade is by no means unanimously in favor of the project. Here in Batoum one hears nothing favorable, and a great deal against such a pipe-line. It is claimed that the construction of the line by the people most interested, *i. e.*, the trade itself, is out of the question, because of its impoverished financial condition. It must then be constructed by foreign capital or the Government, and although at present the hopes of the trade are based upon the construction by the Government, no one believes that there is the remotest chance of the Government constructing it, because it would not be of the slightest use for military purposes. The people here say the scheme cannot be presented to foreign capitalists in a favorable light for the following reasons:

The project generally considered is for a line of 7 or 8 inch pipe for refined only, as the quality of the crude and the present large investment in refining plant at Baku make piping crude out of the question. (At present, however, there is a great deal of talk about a crude-line to be constructed by the railway company.) The amount of money necessary for the construction of such a line is variously estimated at from $7,000,000 to $10,000,000, and those familiar with the manner in which work is done in Russia will always take the greater sum for a basis of calculation. Giving a line of this size its maximum capacity, to allow a fair interest upon the investment, say 5 to 6 per cent., there could be no great reduction from the present railway freight rate. It is not believed, however, that its maximum capacity would be reached before two or three years from its completion, and consequently no reduction in freight could be made for several years, and the only advantage accruing to the trade from the construction of the line would be the very questionable one of increased facilities for reaching the markets with an article with which they are already oversupplied. Looking at the scheme from an investor's standpoint, the fact will not be overlooked that, unlike a railway, which creates traffic, a pipe-line is entirely dependent upon the one product for its maintenance, and the failure of that product means total loss of investment, as the value of material of this description, providing a market could be found for it, would hardly pay for the expenses of its removal. It is, of course, generally believed that the supply of petroleum at Baku is everlasting, but it would not be an easy task to convince capital that this was the case; therefore a pipe-line investment would hardly be called a legitimate one, but a speculation. Such a speculation might be justified by a certainty of from 15 to 20 per cent. interest upon the investment the first year or two, but with a certainty, on the contrary, of not more than 5 per cent. under the most favorable circumstances it would be ridiculous. The present unsettled condition of European politics is also a serious obstacle in the

way of the carrying out of this project. Foreign capitalists are not likely to make a great investment in Russia at present, especially as such an investment would necessarily have to be made in the name of Russian subjects, as Russia grants no concessions to foreigners. Of course these arguments seem very strong against the project, but in this country, as I have said before, results are not generally considered, and the unexpected is always happening. If the pipe-line is to be constructed, I am sure the American pipe manufactures can, with proper attention to the matter, secure the contract for making the pipe, and it seems that such a contract at present should be worth looking after.

PRESENT SITUATION.

The present condition of the Russian petroleum business is not all encouraging. Financially it is in very deep water, and it is difficult to see any way out. The fact is, the industry is suffering from too much misdirected energy, which is a remarkable thing in Russia. The energy of the trade in the past three years has been directed against the American product, and in the efforts of the Russians to drive the American article out of the markets of Europe the home trade has been badly mismanaged.

In Russia, with a population of 91,000,000, where the home product is protected by a duty of 11 to 12 cents per gallon, it is generally conceded that the legitimate manufactures of illuminating oils have reaped no profit financially in the past two years, owing to bad commercial management and a ruinous competition among themselves. The prices at Baku have ruled low the whole of the present year, and at the present time, in the midst of what is usually the busy season for export, refined is only worth from 1⅞ to 1¼ cents per gallon f. o. b. (at Baku), the price varying according to the necessity of the seller. At these prices there is no margin of profit for either producer or refiner, and when in a few weeks the navigation of the Volga is stopped by ice for the winter, prices must decline still further. Failures in the trade are always expected, and just now rumors are numerous regarding the financial weakness of some of the largest producers and manufacturers in the trade. At Batoum prices are a trifle higher proportionately than at Baku, owing to the lack of railway transportation, and there is a prospect of a scarcity of refined among the smaller exporters there before January. The large exporters, like Nobel and Rothschilds, have prepared for the winter trade by buying from smaller refiners for future delivery at Batoum, thereby securing the transportation allotted these smaller refiners by the railway committee.

EXPORT TO AUSTRIA-HUNGARY.

One branch of the Russian trade, however, is apparently profitable (I say "apparently," for that it is really profitable is denied by many dealers and exporters), that is, the exportation of so-called crude oil to Austro-Hungary, which it has been incorrectly stated is due to the tariff laws of that country favoring the Russian article. The crude oil tariff of Austro-Hungary, although lower for Russian oil (or, more strictly speaking, for an oil of heavier gravity than 38° Beaume) than for American, owing to the great difference in the illuminating qualities of the two oils, is not a discrimination against the American crude. The discrimination against the American crude consists in the fact that Russian distillate, which is a manufactured oil, is allowed to enter Austro-Hun-

gary as crude oil, and by paying crude oil duty. This is not done secretly, but openly, and of course with the consent of the Government. The combined chemical skill at Baku (and Hungary, too, perhaps) has for some time past been directed to experimenting with a view to discovering the most profitable combination of distillate and residuum for Austro-Hungarian export that will not be lighter than 0.830 specific gravity (38° Beaume), and the result is an article containing 90 per cent. illuminating distillate and 10 per cent. astatki, the latter being valuable for fuel. Consequently the Fiume and Pesth refiners, instead of paying the lawful duty upon an article that will yield only 30 per cent. refined oil, are getting for that duty an article that will yield three times as much illuminant, with less labor, time, and expense, and this business certainly should be profitable.

The volume of this export is so rapidly increasing, and it so directly affects the American petroleum interests, that it seems but right and proper that the Department of State should be advised of it in order that it may obtain the attention of the American petroleum exporters and arouse them to a realization of the proportions which this unfair competition may attain. Consul-General Jussen gives the Austro-Hungarian import duties upon petroleum as follows: Crude, of 0.830 specific gravity and heavier (39° Beaume), at 12° Reaumur, 1.10 florins (gold) per 100 kilos; crude, under 0.830 specific gravity, 2 florins (gold) per 100 kilos; refined, 0.870 specific gravity and under (31° Beaume), 10 florins (gold) per 100 kilos.

Natural American crude, which yields from 70 to 85 per cent. illuminant, comes under the 2 florins rate of duty; while natural Russian crude, which yields only 27 to 30 per cent. illuminant, comes under the 1.10 florin rate of duty, and cannot possibly compete with either American crude or the heavier native Austrian product from the Galician wells.

The article exported from Batoum and admitted as *crude* oil at Fiume, paying the 1.10 florins per 100 kilos duty, is not a natural crude (nor is crude oil used in its composition), but is a combination of manufactured oils prepared solely for the purpose of defrauding the Austro-Hungarian revenue.

Russian illuminating distillate is much heavier than American, about 0.823 specific gravity (40° Beaume), and experiments made for the particular purpose have resulted in the preparation of a heavy and valuable lubricating oil distillate (the Austro-Hungarian duty upon which is 1.90 florins (gold) per 100 kilos), which is mixed with illuminating oil distillate in the proportion of 15 and 85, 10 and 90, and in some cases it is boasted 5 and 95, thus forming an article of 0.830 specific gravity or heavier, which will yield 100 per cent. valuable merchantable products, which, as before stated, is admitted at Fiume at the same rate of duty as the law requires for a natural oil which will not yield over 50 per cent. merchantable products in Austro-Hungary.

Taking the average mixture as 10 per cent. lubricating distillate, and 90 per cent illuminating, the gain to Austro-Hungarian importers of this article is as follows (in gold florins):

Duty upon 90 kilograms refined oil, at 10 florins, gold	9.00	
Duty upon 10 kilograms lubricating distillate, at 1.90	.19	
Amount of duty actually due on 100 kilograms		9.19
Amount of duty actually paid by importer	1.10	
Internal tax upon 90 kilograms, refined, at 6.50 florins, paper, per 100 kilograms in gold florins	4.68	
		5.78
Net gain to importers per 100 kilograms (gold)		3.41

The export of this article in the month of November was over 1,000,000 gallons, while this month it has reached already 1,800,000 gallons, with another steamer loading.

Estimating 30 gallons to 100 kilograms, the export for December will amount to 600,000 kilograms, and the amount of profit derived by the half-dozen importers, or perhaps more properly the amount of the Government subsidy given them (as it appears like a subsidy), is 204,600 gold florins, or over $100,000 in one month, so that it is not at all surprising that such a profitable business is growing rapidly.

At present there are, regularly in this trade, four steamers carrying the stuff in barrels, one steamer carrying it in bulk, with another bulk-carrying steamer expected very soon, while a number of sailing vessels are occasionally employed.

At Baku and Batoum no efforts are made to disguise the character of this export, but on the contrary it appears to be a source of great pride to those engaged in the business, and no pains are spared apparently to publish this evidence of the remarkable favor which the few people profiting by this subsidy are in with their Government.

It is cleared through the Batoum custom-house as *distillate*, and with such notoriety here it is impossible that the Fiume customs officers are ignorant of the fact that instead of it being a natural crude oil it is a combination of manufactured oils; consequently, it behooves the American petroleum exporters, whose natural crude petroleum this Russian manufactured article is rapidly displacing in Austria-Hungary, to look this matter squarely in the face (if they have not already done so), and recognizing as a fact that this unjust discrimination against them meets with the approval of the Austro-Hungarian Government, prepare if possible to protect themselves against it.

VOLUME OF PETROLEUM BUSINESS.

From the following statistics an idea of the volume of the Russian petroleum business can be formed, and the map of the Apsheron Peninsula annexed will give a fair idea of the tested and supposed oil territory in the vicinity of Baku. This map is made from an old Russian map published in connection with a geological report several years ago, and is the best and only small map of the territory I have seen.

Shipments of petroleum products from Baku via Caspian Sea, from January 1 to September 30, 1886 (new style January 12 to October 12).

[In gallons.]

Description of oil.	To Russia.	To Persia.	Total.
Illuminating oils	82,585,925	577,460	83,163,385
Crude	11,997,210	302,150	12,299,360
Crude residuum (fuel)	143,071,290	106,230	143,177,520
Lubricating oils	670,740	.....	670,740
Benzine	134,200	.....	134,200
Solar oil	403,680	188	403,868
Solidified residuum (poods, 1,250)	.....	.....	.....
Total	238,863,045	986,028	239,849,073

Exports of petroleum products from Batoum, 1885.

[In gallons.]

To—	Illuminating oil.	Crude residuum.	Lubricating.	Total.
England	1,748,300	187,550	1,239,525	3,175,375
Germany	250,000	.....	40,100	290,100
Austria-Hungary	3,281,570	.....	613,115	3,894,685
France	1,056,125	198,500	1,211,570	2,466,195
Spain	12,000	.....	.....	12,000
Italy	3,239,470	75,000	980,740	4,295,210
Turkey	11,843,950	205,400	13,100	12,062,450
Roumania and Servia	5,197,060	.....	.....	5,197,060
Holland	.....	.....	10,000	10,000
Other countries	236,850	.....	.....	236,850
Total	26,865,325	666,450	4,108,150	31,639,925

Shipments of petroleum products from Batoum from January 1 *to September* 30, 1886 (*new style January* 12 *to October* 12).

[In gallons.]

To—	Illuminating oils.	Crude residuum.	Lubricating oils.	Total.
January (not given separately)	3,469,065	708,200	388,750	4,566,015
England	1,075,000	90,000	1,820,185	2,985,185
Germany	865,000	178,200	516,500	1,550,700
Austria-Hungary	4,483,380	2,067,240	130,000	6,680,620
Belgium	1,527,750	490,050	355,250	2,373,050
Denmark	200,750	.....	.....	200,750
France	1,458,400	411,490	1,064,845	2,934,735
Italy	2,181,000	785,800	292,400	3,259,200
Turkey	7,538,265	1,000	5,155	7,544,420
Greece	418,500	.....	1,750	420,250
Algiers	269,000	.....	.....	269,000
Roumania	4,470,410	22,500	56,650	4,549,560
Egypt	765,000	.....	.....	765,000
Spain	308,000	.....	.....	308,000
Holland	.....	.....	120,000	120,000
Total exported	29,029,520	4,694,480	4,751,485	38,475,485
Shipped to Russia	8,062,035	95,650	572,385	8,730,970
Total shipments	37,091,555	4,790,130	5,323,870	47,206,455

Official custom-house figures for the export of petroleum products from Russia, first seven months of 1885 *and* 1886.

[In gallons.]

Port.	Year.	Refined.	Crude residuum.	Lubricating.	Crude.	Total.
Batoum	1885	16,025,000	320,000	935,000	.....	17,280,000
	1886	20,000,000	3,945,000	3,945,000	375,000	27,815,000
Novorossiak	1885	.....	.....	.....	500,000	500,000
	1886	180,000	70,000	.....	55,000	305,000
Baku	1885	400,000	125,000	.....	390,000	915,000
	1886	980,000	105,000	.....	165,000	1,250,000
Totals	1885	16,425,000	445,000	935,000	890,000	18,695,000
	1886	21,160,000	3,670,000	3,945,000	595,000	29,370,000

NOVOROSSISK AND ILSKY.

The petroleum operations in Russia, next in importance to those at Baku, have been at Ilsky, about 50 miles east of the port of Novorossisk, which is 250 miles northeast of Batoum, upon the northeastern coast of the Black Sea. I speak of these operations in the past tense, because at present little or nothing is being done at this place.

In this vicinity, oil, of different qualities and insignificant quantities, was found a great many years ago, but no operations worthy of consideration were commenced until about the year 1873, when a Colonel Novosiltsoff began operations upon land leased from the Russian Government. Owing to Colonel Novosiltsoff's financial difficulties, however, his leases passed to an American, who organized a company in Marseilles and commenced working near Ilsk in the year 1878.* In a few years, however, the Frenchmen became dissatisfied with the management of the American, endeavored to get the business out of his hands, but finding this impossible by law, owing to the brilliant management of the American, they paid him a large sum of money for his interest, and obtained exclusive control of the business, illustrating the old story of combination of money and experience ending with experience and money. This American is, I believe, one of the very few men, if not the only man, who has made money out of the Russian petroleum business.

The area of the territory developed at Ilsky is not more than one mile square, upon which 70 wells have been drilled, almost all of which were producers, in limited quantities, of crude oil of various qualities. The greater number produced from a depth of 100 to 600 feet, small quantities of very heavy oil, from 0.9722 to 0.9459 specific gravity (14° to 18° Beaume). A few, however, produced a lighter crude, 0.8860 to 0.8641 specific gravity (28° to 32° Beaume), from depths varying from 400 to 800 feet. One well was drilled to a depth of 1,200 feet, but was not a profitable producer. Only one well produced largely, and it is claimed commenced flowing at the rate of 1,000 barrels per day, but declined rapidly, and soon stopped entirely, owing, it is said, to the fact that the pipe in it was too small, and consequently was soon filled up with mud.

A three-inch pipe line from Ilsky to Novorossisk was constructed in 1881 and 1882, and with three pumping-stations. The pumps were of English manufacture, and the pipe Scotch, and although the greatest elevation to overcome was only 700 feet, and the Novorossisk terminus much lower than Ilsky, the line was a failure, owing to the quality of the oil to be pumped, and the inferiority of the pipe and pumps. Three more pumping stations were added, with American pumps, making six in a distance of 47 miles. The new pumps were too powerful for the pipe, and the result is that the line, although occasionally operated, consists now principally of flange unions.

Tanks were constructed at Ilsky and Novorossisk to hold 100,000 barrels of oil. A refinery of 300 barrels per day capacity was erected at Novorossisk, and also docks, machine-shops, laboratories, all upon a grand scale. At Ilsky stills were erected to heat the oil, as it was found impossible to pump it without heating it and extracting as much of the water from it as possible, but it requires distillation to thoroughly extract the water from the oil.

The administration of the company at Novorossisk and Ilsky was remarkably large and complete. There was no lack of "*general*" officers and "*sous*" officers, all wonderfully proficient theoretically, but all practically ignorant of the petroleum business. The work of drilling and

* See Consul Mason's report in Consular Reports No. 64, page 182.

pipe-line construction was performed by Americans of great experience in the business, but of course badly hampered by the ignorance and theories of their superior officers, and bad material furnished them. Notwithstanding all the difficulties they had to contend with, they worked very successfully, drilling, as I have before stated, one well to the depth of 1,200 feet, and many others 800 and 900 feet.

The revenue of the company was derived principally from assessments upon the stockholders. It had, however, a limited market in the spring and autumn for heavy oil at Ilsky, to which place at these seasons, carts from the Kuban River country came in great numbers and took this heavy oil for fuel and axle grease, using it in its crude state for both purposes, as their axles are made of wood. It was also shipped in such small quantities as it was possible to *push* through the pipe-line to Rostoff, on the Don, and there sold generally at a loss. Some was shipped to Marseilles, the headquarters of the company, for experimental purposes, and from the fact that very little was sent there, and shipments have now ceased, it is fair to presume that the result of the experiments with it was unsatisfactory.

There was very little refined petroleum made at Novorossisk, as the heavy oil would not yield any illuminant, and the production of the lighter crude was always small and very uncertain, and this crude also contained a very small proportion of illuminant. There is a story which every new-comer in this country hears about some shallow wells in this vicinity many years ago producing crude containing 35 per cent. illuminant, but confirmation of this legend is impossible. Of course a diversion like this could not go on forever, for stockholders, although not tiring very easily, must eventually become exhausted. In October last year all the American employés but one were discharged and expenses greatly reduced by an almost entire cessation of drilling, after an investment of over $2,000,000 had been made.

In May last this $2,000,000 was represented by a production of 175 barrels of 28° Beaume crude per day from fourteen wells, 80 barrels per day of heavy oil 14° to 18° Beaume, a forty-seven mile pipe-line, which was more troublesome than useful, a refinery, large wharf, machine-shops, and a number of high-salaried officials at Novorossisk.

Since May it is said the production has greatly declined, and a rumor is afloat about some European capitalists going to take hold of the property; a rumor which no one believes, however, for men who have money didn't get it by taking such loads as this upon themselves when they could start afresh with better prospects.

In the neighborhood of Ilsky other parties have been and are still prospecting for petroleum in a very primitive manner without success.

There has been recently some talk by irresponsible parties of starting this French business afresh, and great stress is laid upon the advantages of the harbor at Novorossisk (for the improvement of which the Russian Government has recently appropriated a large amount of money) and the railway now building from Ekaterinodar to Novorossisk. What advantage the railway will be to the petroleum business with an imitation pipe-line already constructed is not apparent, while the advantages of the harbor are also problematical, if the most experienced navigators of the Black Sea are any authority on this matter. From these gentlemen it seems that the harbor of Novorossisk being completely landlocked, the trouble does not come from the sea, but from northeast winds from shore, which are of very frequent occurence. When this land-wind commences vessels cannot enter the harbor, and

the only thing for vessels in the harbor to do is to pull up anchor and get out of it.

CRIMEA.

Northwest of Novorossisk about 90 miles, in the vicinity of the town of Kertch, on the Crimean Peninsula, another French company has been prospecting for oil for some years, without success, and with very little encouragement; but upon a much smaller and more sensible scale than their countrymen on the other side of the Black Sea.

About fifteen or sixteen years ago, at a Tartar village, Kop-Kootchigan, about 20 miles south of Kertch, a heavy oil was found at a depth of 80 to 180 feet, by digging holes without the aid of machinery. The oil was obtained by skimming it from the surface of the water with which the holes were allowed to remain filled. Two years ago there were 115 of these holes, protected by barrels sunk into their tops, still to be seen, but no oil had been taken from them for twelve years. These holes and the oil springs which exist in many of the salt lakes which are found all over this part of the Crimea, it is said induced these Frenchmen to lease an immense tract of land here, several million acres it is said, and commence prospecting for petroleum of a better quality and in larger quantities. They commenced by procuring Americans of experience to do the work, and kept Americans until last February, when they suspended operations. The following is the result of their operations:

At Chingalek, about 16 miles south of Kertch, seven wells have been drilled to various depths, the deepest of which being 940 feet and producing for a short time about 30 barrels per day of crude oil, said to contain 36 per cent. of illuminant and 30 per cent. lubricating oil. The total production of this well was only 3,500 barrels, and was all the production this company ever had, as all their other wells were either totally dry or produced very little oil.

At Kop-Kootchigan four wells were drilled, the deepest being 840 feet and yielding a little heavy oil.

At Temesh, about 30 miles west of Kertch, one well was abandoned after two years' work, at a depth of 870 feet.

At Zamoskaya, 25 miles west of Kertch, one well was abandoned at a depth of 500 to 600 feet.

At Karamish-Kelechi, one well 790 feet.

At Tescheoli, two wells 630 and 700 feet.

This company erected a small refinery in Kertch, but, as before stated, ceased or suspended operations in January or February this year.

Across the Kertch straits, opposite Kertch, near Taman, the same Colonel Novosiltsoff, who had the immense Government concession at Ilsky, in 1863 commenced operations for petroleum with the assistance of several Americans. They commenced by erecting a large refinery, the material for which was prepared ready for erection in Glasgow, Scotland, and brought out here at an immense expense. After the refinery was ready they commenced drilling for oil, but never got any. They were enterprising, energetic people, and were bound to test the refinery; so small quantities of crude were brought in carts from shallow wells in the Kuban country and a few runs were made from it. The refinery was abandoned and allowed to go to ruin until the French company at Novorossisk began operations, when it was leased to this company for ten years. It is said the French company leased it to prevent its being used against them by any unscrupulous persons who might

be induced by their success (which was assured they thought) to compete with them.

The only other petroleum prospecting in Russia at present is about 30 miles northeast of Batoum, near a railway station called Notanebi. Some time ago an Englishman or an English company bought a small tract of land, has since leased a great deal more, and commenced operations by employing an American as superintendent. Machinery, tools, and material were ordered from America, and by the middle of November drilling will be commenced upon what must be a very important test well, to both Russian and American trade, as a new field on this side of the mountains would be a very bad blow for the Baku trade, and a very serious thing for the Americans to compete with.

JAMES C. CHAMBERS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Batoum, November 1, 1886.

PETROLEUM FIELDS OF EGYPT.

REPORT OF CONSUL BISSINGER, OF BEIRUT.

The preliminary and experimental borings in the extensive oil regions on the littoral of the Red Sea are being pushed forward with unabated vigor by the Egyptian Government. An efficient staff of geologists, mining engineers, and other experts from the United States, Great Britain, and Belgium are busily at work, ably seconded by experienced assistants from the American and Russian oil-fields.

Improved machinery and mechanical appliances of every description have recently been landed at the newly-constructed harbor situated about 2 miles north-northeast of the petroleum wells. These wells are pools of a black-looking, bitumen-like substance, which emit an unmistakable odor and "scent" the desert air for miles around.

The whole district from Gemsah on the south to over 20 miles north of Djebel Zeyt, presents every indication of the presence of oil, and when it is remembered that oil was struck at a moderate depth at the first boring, and a flowing well was produced at a greater depth at a subsequent boring, there is every reason, it is claimed by those having devoted much time and thought to the subject, to believe that the fields contain petroleum deposits in such abundance as to fully justify the immense expenditures ventured in the elaborate preliminary operations by the Egyptian Government.

The existence of oil in the district extending from Djebel Zeyt to the island of Shadwan was already known in very ancient times, and repeated efforts were made in former years to obtain profitable results, not the least important among which were those by the late Khedive Ismail, traces of which are everywhere apparent.

It remains now for an American, a Mr. Tweddle, to demonstrate to the present generation whether the hypothesis of an inexhaustible supply beneath the surface is illusory or not. Ample means have been placed at his disposal, and the important question is to be finally decided within the next few months, conformably to an agreement with the Egyptian Government.

In this connection it may not be uninteresting to record the result which Mr. L. H. Mitchell, the geologist referred to in my previous dispatches,

according to a well-informed authority, is said to have reached last summer in his geological reconnaissance, and which is favorable to the theory that rich petroleum beds are present in the depths of the sedimentary stratification of the entire region around Djebel Zeyt.

Mr. Mitchell, engaged by the Egyptian Government, employed about four months of last summer in making his explorations, and brought back with him a large collection of rock specimens, fossils, shells, and other convincing evidences, which will throw a flood of light on the whole question.

The region surveyed is said to embrace inland from the Red Sea an extent of country about 80 miles in length and from 25 to 30 in breadth.

The northerly limits of the region traversed are Gebel and Ras Ghareb, and the southerly, Gebel Gattar and Ras Aboo Mingarh.

The principal islands off the coast, Shadwan, Jifatin, and Jubal, were also visited.

Between the coast-line and the high crystalline mountain chain, which, 25 miles from the sea, stretches along parallel with it, elevations have taken place at different geological epochs through the after intrusion of veins and fields of crystalline rocks (granite, granitic porphyry, porphyrite, felsite, diabase, &c.), as also through volcanic action, as is the case at Gemsah. Mr. Mitchell discovered the existence of black lava at that point, and obtained specimens of the same at the spot of the abandoned sulphur mines of 1868, already referred to.

On account of the intrusion or eruption of these masses of crystalline rocks and volcanic lava, the original order, condition, and superposition of the beds or layers of sedimentary rocks have been disturbed in such a way that the lowest strata or beds have been brought into indirect relation with the highest.

It is maintained that the petroleum of Gebel Zeyt has its origin in the lowest sandstone strata, which belong to the Devonian formation, as is precisely the case in the United States on the eastern slope of the Alleghanies.

Fissures in the sedimentary rocks, caused by the intrusion of the crystalline rocks, veins of granitic porphyries, felsites, &c., or the eruption of volcanic lava, as at Gemsah, have given cause to infiltration, so that the petroleum appears on the surface.

It is in this neighborhood that boring operations have been instituted.

In view of Mr. Mitchell's observations, the theory advanced by Prof. Oscar Fraas, of Stuttgart, in 1864, is untenable. His deduction was that the petroleum at Gemsah is due to the decomposition of animal bodies, and quite superficial, and would, consequently, very soon be exhausted.

A well-known authority in geological science, Prof. Mayer Eymar, of Zurich, who has made the Egyptian Tertiary formations an object of most thorough study, is said to have expressed himself during his last visit to Cairo as being greatly satisfied with the result which had been arrived at by Mr. Mitchell, and stated that he was convinced that the proofs brought forward by this mining engineer were bound to satisfy every scientific geologist.

The sandstone of the eastern slope of the Egyptian coast mountains rests everywhere directly upon the crystalline rocks, and shows itself nowhere here more than 300 feet in thickness. The lowest division of the same belongs, as Dr. Schweinfurth discovered last year in Wady Arabah, to the Devonian formation, and has been named by Professor Hull, in his Survey of Western Palestine, "Desert Sandstone."

In Wady Dakhl, a few miles to the south of Saint Paul's Convent, this sandstone formation contains, very near its contact with granitic porphyry, bituminous marl-slate, which induced Figari Bey, in 1845–'48, to dig for coal, to which end he ran horizontal galleries into the mountain. This bitumen comes from petroleum, which in this place is only indicated, but must fill reservoirs of large area in other places in the same formation, as is evidenced by its appearance at the surface on the coast.

Above the sandstone, on the eastern slope of the great nummulitic plateau lying behind the crystalline coast range, are found undisturbed layers of marl alternating with fossiliferous breccias, for the most part soft, belonging to the Upper Cretaceous formation (Senon and Turon) about 250 feet in thickness. Near the sea, however, they do not appear to have been at all developed, at least to no great extent.

Above this is found the uppermost stratum of the white-chalk or Cretaceous rocks (Senon) with *Ostrea vesicularis*, which, near the Red Sea, is replaced by white-chalk layers, 200 feet thick, full of large flint concretions. On these is bedded Upper Miocene limestone with *Ostrea crassissima*, &c., which in hills near the sea-coast is found developed to a thickness of 300 feet.

The Eocene formation is entirely wanting in the coast region. On the contrary, however, the great plateau inland has a development of this stratum from 1,200 to 1,500 feet.

It appears from what has been said that in order to arrive at the petroleum bed it will be necessary to bore through, in the worst case, only about 1,050 feet of strata. It is likely, however, that even in unfavorable spots it will not be necessary to bore more than 800 feet.

Should it, however, be practicable to bore in those places where the above-mentioned Cretaceous limestones (those containing flint concretions) have been tilted, and where one can take advantage of the lowest geological horizon or level—in those places the boring would probably have to be carried down only to a depth of 500 feet, perhaps no more than 400.

Judging from the results of the researches made by Mr. Mitchell, the required points are concluded to be inland, one of them about 20 miles from Gebel Zeit in Wady Dhib, where the white flint chalk is infiltrated with bitumen, the other about 10 miles from the coast in the locality of Bir-el-Melaha or Enned-el-Melaha.

Boring at the present moment is being carried on at two points, namely, at Ras Gemsah and at the southerly end of Gebel Zeit.

At Ras Gemsah the strata belong to the Upper Miocene formation, with perhaps in some places recent coral limestone deposited thereon. This latter, elsewhere of a very great extension on the shores of the Red Sea, in accordance with Professor Hull, is called "The formation of the Raised Beaches." The boring at Gebel Zeit seems somewhat exposed to danger by being too near to the crystalline rocks of the mountain, so that they may be hit before the Devonian sandstone is arrived at.

ERHARD BISSINGER,
Consul.

UNITED STATES CONSULATE,
Beirut, December, 17, 1886.

NOTE.—In supplementary reports consul Bissinger says:

"The report that was being sedulously circulated appears now fully to be confirmed, that boring No. 1 at Gemsah is now spouting pure, heavy petroleum at a depth of 125 feet. * * * It is expected by those competent to give an opinion

that sufficient oil will now be obtained to carry on the works at the oil fields and for the requirements of the Egyptian State Railway. Borings Nos. 2 and 3 are to be carried to a much greater depth than No. 1, in the belief that increased depth will improve the quality of the oil. The borings at Djebel Zeyt are said to have already reached a depth of 215 feet." (December 27, 1886.)

From a report officially communicated to the Egyptian Government it appears that boring No. 1 at Gemsah has now reached a depth of 320 feet, and is through hard stone, impregnated with oil, emitting light gases, which denote the presence of a lighter oil below than that met with at the depth of 125 feet, as formerly reported. When between 265 and 270 feet had been pierced, a stratum of "oil wax," a species of asphalt, was encountered, and this is considered a sure indication of oil underneath. The "kerosene" which is used in the manufacture of candles is produced from this asphalt or bitumen.

Boring No. 2 has now attained a depth of 195 feet, and is through blue clay, with an odor of petroleum, while boring No. 3 is 162 feet deep, without any indications as to its prospective productiveness. It is located at a greater distance from the shore than Nos. 1 and 2, and is expected to show good results eventually.

The Djebel Zeyt well has reached a soil composed of slate or hard stone and clay, and is 350 feet deep. This stone substance resembles the stone of boring No. 1 when without petroleum. (January 4, 1887.)

SWISS FORESTRY.

REPORT OF CONSUL-GENERAL WINCHESTER.

Great and increasing attention is paid in Switzerland to forest culture and forest preservation.

Two considerations have chiefly operated to produce its importance if not its necessity: one the influence in checking the sudden and disastrous floods so common in the mountain streams; the other the protection and maintenance of the steep hillsides which constitute so large a portion of the agricultural area of the country. From time immemorial almost all the mountain cantons possessed forest laws, but it was not until the revision of the federal constitution in 1874 that the federal Assembly by virtue of Article 24 of the constitution enacted the law of March 24, 1876, assuming federal supervision of the whole question, and it is now regarded as a matter of paramount national importance. The commercial management is subjected by the federal law to state inspection.

It is the duty of the forest department to give advice and point out the necessity of renewal, replanting, and maintenance of trees sufficient for shelter or protection against avalanches, earth-slopes, and falls of rock. The communal forests are managed by the council, who employ wood-rangers, qualified by examination or training in the state forestry schools, and even on the mountain side, apparently but a forbidding rock, by constant, careful, and scientific attention are found oak, beech, birch, and pine in large quantities and of respectable dimensions.

By the last report, embracing 1885, Switzerland contained the following forest areas: State forest, 32,995 hectares,* or 4.20 per cent.; commune and corporation forest, 520,183 hectares, or 66.23 per cent.; private forest, 32,196 hectares, or 29.57 per cent.; total, 785,374 hectares, or 18.99 per cent.

The Canton of Berne had: State forest, 110.50 hectares, or 7.68 per cent.; commune and corporation forest, 774.10 hectares, or 53.84 per cent.; private forest, 553.20 hectares, or 38.48 per cent.; total, 143,780 hectares, or 20.87 per cent.

In some communes, after a provision of wood has been set apart for such public purposes as construction, repairs, and heating of schools,

*1 hectare is equal to 10,000 square meters, or 2.471 acres.

churches, and communal buildings, an allotment is made to every citizen householder. Extra timber to be paid for may be allotted on application for any special purpose, but it must be used within a fixed time for the special purpose and no other, under a heavy penalty.

In all communes the citizens so far as possessed of communal rights can determine and control in their local assemblies the distribution of wood. As to the administration, purchase, and sale of forest the Government exercises a supervision, and is vigilant in guarding the interest of posterity by preserving forest capital and forest benefits as far as practicable unimpaired.

Private forest interests are regulated to the extent of requiring a new planting to be made whenever there is clearing done.

The new planting does not necessarily cover the same area in extent as the clearing, but is a matter in the discretion of the forest department.

PASTURE RIGHTS.

Pasture in the forest is only permitted when the tops of the trees cannot be reached by the stock. As a rule every citizen who is also a householder has a right to put on the commune pastures, which are usually available from June to September, a certain number of cattle and sheep. The pastures would not be sufficient if every one put on his full quota, but the grazing season being short and the winters long, the quantity of stock that can be kept on the commune is limited to what can be supported in winter.

For each head of cattle depastured, 1 franc must be paid to the municipality and one day's work given repairing fences, roads, &c. For every sheep, 10 centimes are paid. The owner may attend his own cattle, or he may hire the milch cattle to others, or he may put these under charge of the communal herd for a small payment; but no citizen can let or sell his right to pasture, nor can cattle not belonging to citizens be hired and put on the pastures.

The communal council cannot impose more than a certain amount of taxation, nor sell on mortgage these commune forests and pastures without permission of the council of state. It is seen, therefore, that every citizen who is also a householder has, besides his individual property, an inalienable right to the use of the communal pastures and to at least as much wood as will supply his necessary wants. He cannot divest himself of these rights by sale, letting, or mortgage, and so far as these are valuable he is insured against abject pauperism.

FEDERAL ADMINISTRATION.

There is a federal bureau of forestry, known as the third division of the department of commerce and agriculture, that assumes direct management of the federal forest districts (mountains or Alps), and the forests outside of this district are under the control of the respective cantonal governments. The federal forest inspector is vested with the power to see to the observance and enforcement of the forest police laws and regulations both of the Confederation and the cantons. In all the cantons, with the exception of Basle Land, Basle City, and Geneva, there is a chief forester, under whom the entire administration is placed. In addition to him nearly every large city and commune have special skilled and educated foresters, for the more careful attention to their local forests. All, however, are subject to orders and the immediate direction of the cantonal chief forester, as he is subject to the authority of the federal department of forestry.

FINANCIAL ADMINISTRATION.

The Swiss Confederation derives no revenues from forests. It does not possess any forests, but has undertaken in certain districts the administration of the forest laws, and whilst reserving as to all some general controlling power, intrusts to state and local authorities the enactment and execution of their own forest laws. The cantons own but a small portion of the forests, the greater part being the property of communes, corporations, and private individuals. The quantity of wood which can be taken annually from these forests with a proper regard to their efficient preservation, in all of its varied purposes, is estimated at 2,789,000 cubic meters.

Of this, 156,000 is credited to the state forests, to the commune and corporation forests 1,859,000, and to private forests 774,000.

The amount permitted to be taken per hectare, or for every 10,000 square miles, from the state forests, is 4.75 cubic meters, for the commune and corporation 3.57 cubic meters, and from the private forests 3.37 cubic meters, or an average of 3.57 cubic meters. From the total wood taken annually 40 per cent. is for lumber and 60 per cent. for fuel. The first has an average value of 16 francs per cubic meter, the other of 9.25 francs; the total value of wood taken from the forests amounting therefore to 33,179,000 francs, at 11.92 francs per cubic meter, and yielding 42.13 francs per hectare.

The above estimates apply to the wood in the forests.

The income from the state forests of the Canton of Berne, with a ground valuation of 13,500,000 francs, amounts to 700,000 francs. From this, however, must be deducted the following items: For harvest expenses, 136,000 francs; supervision of forest, 35,000 francs; cultivation, 21,000 francs; roads and supports, 28,000 francs; taxes to the state and commune, 86,000 francs; administration, 55,000 francs; total expense, 361,000 francs; leaving a balance of 339,000 francs as a net income.

PLANTING OF TREES.

Since the federal forest law was passed, covering the years 1878-1885, inclusive, there have been used for new planting in the federal forest district pine and non-foliage shoots, of which there are some eleven varieties, 42,197,796, or an annual average of 5,263,474, and of foliage or leaf shoots, consisting of a very great variety, 2,811,439, or annually 351,430. These new plantings included 4,668,332 shoots and 855 kilograms (a kilogram equals 2 pounds) of seeds, which were used for the foundation of 175 new forests, embracing an area of 700 hectares. The cost of these new plantings is estimated at 230,380 francs. Other improvements in the sum of 317,015 francs were made:

(1) Earth-works, 9,507 meters long, and 4,108 cubic meter contents.

(2) Stone-work and other masonry, 9,987 meters long, and 22,089 cubic contents.

(3) Wood-work, 194,532 meters long, and 365,396 cubic contents. The federal contribution to the costs of these new plantings and improvements was 258,462 francs; that is, 30 to 70 per cent. of the entire cost of the new plantings which were required for protection against landslides, avalanches, &c., and 20 to 50 per cent. for new plantings involving other public interests and safeguards.

As to the methods but a slight idea can be given, as the full details would be too voluminous for such a report. First, the ground is prepared for the seed, which is sown, and after two years the shoots are

planted in rows at such distance to admit light and any needed cultivation. In two or three years they are transplanted in the forest reservations from 1 to 2 meters apart, according to the soil and the character of the plant. Each plant is carefully looked after and scientifically pruned and trained, each having its fair share of space and light. Bounties are not paid in Switzerland.

SCHOOLS OF FORESTRY.

The Polytechnical School, a federal institution, at Zurich, has a department devoted to forestry, from which is supplied a large body of thoroughly educated foresters. The course of study is of the most advanced character, and is completed in three years. Under the federal forest law the Government extends, as it sees fit, assistance to organizations in the federal forest districts for the promotion of technical forestry. Of these local and primary forest schools there are many, having spring and autumn terms of three to four weeks each.

By a federal law of March, 1885, there was added to the forest department of the Polytechnic at Zurich a school for forest experiments, connected with meteorological stations, thereby supplementing the already excellent school with the means of accurate scientific and regular meterological observations, and their close and important alliance with matters of forest culture.

FOREST PROTECTION.

The destruction of forests is well safeguarded by the federal law of March, 1876, and previous to its enactment most of the cantons had rigid state laws against any dangerous clearing of the forests. As a rule, any person, commune, or corporation wishing to make a clearing must obtain the consent of the forest director, or if the proposed clearing is included in whole or part within the federal forest district, the assent of the proper Government officials is required. As a condition to the granting of the permission, the parties must either replant the clearing with shoots or pay a sum sufficient to have it done.

There are no sand-dunes in Switzerland, and the waste places are few, being either small swamps or the mountain-sides. Many of the latter, under federal subsidy, by the construction of stone and other guards, are being brought into forest cultivation, mainly to form a natural and permanent shelter from avalanches and rock slides, so common and destructive in some localities.

LUMBER TRADE.

In regard to the Swiss lumber trade no domestic statistics can be found. The exports and imports for 1885, the last reports made, show:

Articles.	Quantity.	Value.	Exports.	
			Quantity.	Value.
	M. cenbmr.	*Francs.*	*M. cenbmr.*	*Francs.*
Firewood	965,750	2,414,375	270,594	526,785
Lumber of all kinds for building purposes, not dressed	212,816	851,264	512,787	2,126,910
Dressed lumber	352,986	2,560,341	501,712	3,787,926
Charcoal	56,010	504,090	31,379	237,487
Total	1,586,572	6,270,070	1,406,462	6,679,058

It will be observed that the imports exceed by a small amount the exports, the result of the large importation of firewood, which constitutes almost the exclusive fuel of Switzerland, which has no coal mines, and the wood imported at a less cost than coal. The exports of valuable lumber for building and manufacture show a large balance in favor of Switzerland.

The export lumber trade is mostly with France and Italy; the importation, from Germany and Austria.

Import duty: Brushwood, bark, and tanning bark, 2 centimes per metric centner; building wood, ax-hewed, willow and vine-props, 5 centimes per metric centner; sawed lumber and shingles, 40 centimes per metric centner; dressed building lumber, 60 centimes per metric centner.

Export duty: Wood, rough or hewed, and charcoal are free.

DEALERS IN SEED, ETC.

Seeds are procured and sold by private firms, of which the following leading ones may be named: Titus, Durr & Co, Zurich; Chr. Heinze, Langnau, Canton Berne; John Berrge, Obergeehen, Canton Argovie.

Shoots are distributed generally by the cantons, the larger communes, and the various forest administrations, located as follows:

The forest administration for the Canton of Berne, at Berne.

The city forest office at Winterthere, Canton of Zurich.

The city forest administration at Zofingen, Canton of Argovie.

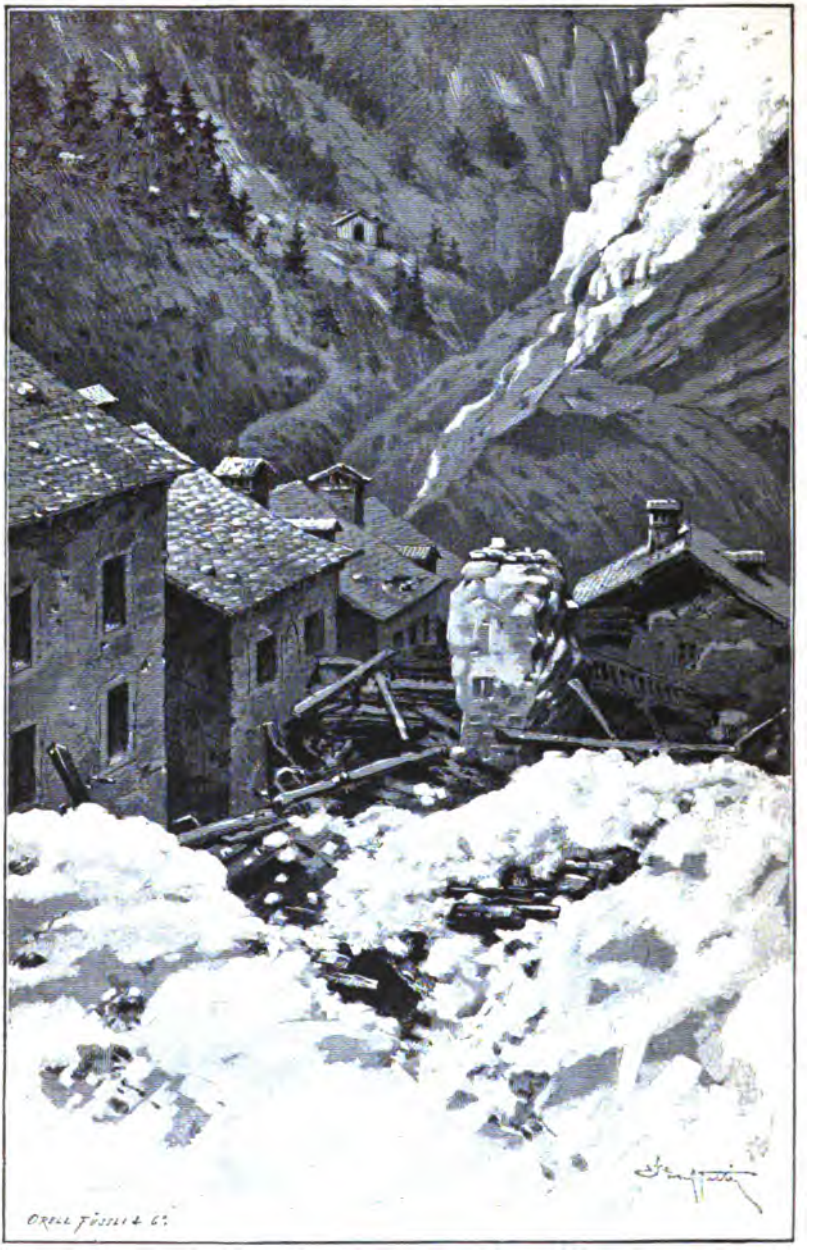
The Canton of Berne at present has no uniform forest law, but is engaged in digesting and codifying one.

The foregoing report is necessarily very fragmentary and incomplete from the various and extensive ground covered by the series of questions submitted and the inexhaustible mass of federal and cantonal legislation bearing on the subject of forest culture and preservation.

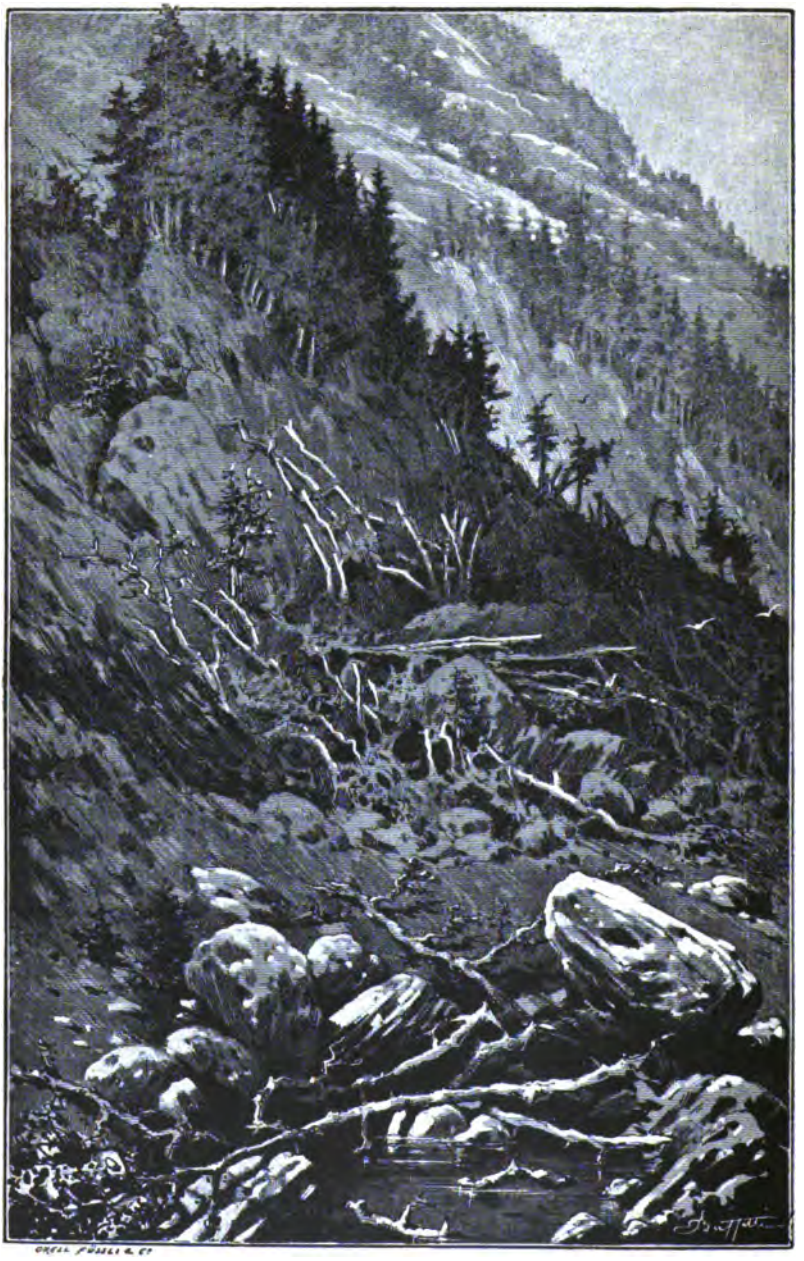
It is respectfully submitted, with the hope that the Department may be enabled from the results of its inquiry to favorably present not only to the consideration of our General and State governments, but to the many persons of fortune in the United States who are addicted to the practice of agriculture as a sort of serious amusement, devoting themselves to the rearing of purely-bred stock, that forestry presents a field for their enterprise both interesting and useful. Why should it not be quite as fascinating to watch the development of a collection of trees as that of a herd or flock? And aside from the personal gratification, a man of public spirit can be assured that he is making helpful additions to the sum of experimental knowledge on a most important subject. It is rapidly becoming, in the vast and treeless West, a profitable business enterprise, sought by many as a permanent investment. It is in that section of our country that sylviculture and forest management are being recognized as of paramount interest.

It is true that land-holders who are accustomed to garner crops in a hundred days from planting have a natural shrinking from seed which may not mature a crop in a hundred years. But it can be shown that growing wood on waste land enhances the value of the remainder of the farm by more than the planting and care have cost; that the first installment of a forest crop is not so remote as is generally believed; that the tree growth enriches rather than impoverishes the ground, and that the best varieties of wood can be grown as easily as the poorest, while the demand for forest products is rapidly becoming more urgent; that forestry not only beautifies the farm, but between woodland and

VIEW I.—Avalanche near Fontana, Canton Tessin.
(May 31, 1879.)



VIEW II.—Nearer view of the ruins at Fontana.



VIEW III.—Avalanche in Lauterbrunn Valley, May 1, 1879.
(Showing the damage wrought by atmospheric pressure along the course of the avalanche.)

are thickly populated sec-

Vol. XXII.—A Branch in Laurel Run. Valley, May 1, 1879.

plowland is restored that balance which must be preserved to insure the most equable distribution of moisture and climatic conditions most favorable to the productiveness of the soil and the better health of the people.

BOYD WINCHESTER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berne, January 14, 1887.

SWISS FORESTRY.

REPORT BY CONSUL CATLIN, OF ZURICH.

For no country in the world is the subject of forestry invested with a greater importance than for Switzerland, the land of crag and torrent, where every streamlet may, unless its flow be regulated and controlled, become in an incredibly short time a raging torrent, leaving death and destruction in its path, or where the careless cutting away of a few trees from a hillside is almost certain to bring down an avalanche of earth and rock sufficient, as in the case of the memorable land-slides at Goldau in 1806, or at Elm in 1881, to engulf entire villages, destroy many human lives, and convert smiling villages into scenes of barren desolation and ruin.

Another memorable avalanche was that which occurred on the 31st of May, 1879, at Fontana, in Canton Tessin, destroying the church, the town-house, a dwelling and two barns, and costing the lives of an entire family. On this occasion, within a space of five minutes, no less than 350,000 cubic meters of earth and rock came down from a height of 4,300 feet upon the devoted village, and the ruin which it wrought is vividly portrayed in the accompanying sketches, placed at my disposal by the federal chief inspector of forestry, Mr. J. Coaz, in whose admirable work, "*Die Lawinen der Schweizer Alpen*" they originally appeared.

An exceptionally curious avalanche was that which on the morning of May 1, 1879, came rushing down the westerly slope of the Jungfrau into the Lauterbrunn Valley, a distance of about 7,000 feet. Its peculiar feature was, that not only along its course but even on the opposite side of the valley, 1,200 feet away, the atmospheric pressure which its rapid movement generated was so great as to level entire forests. The effect is vividly delineated in the accompanying view taken from the work above mentioned.

Since commencing the preparation of this report I have clipped from the *Neue Zuricher Zeitung*, of this city (November 15, 1886), a report of which the following is a translation:

From Altorf.—On Friday evening several blocks of rock detached themselves from a bare crag and fell, one of them passing entirely through a house. The inmates, who had already retired to rest, were buried in the ruins, but on crying for help, were taken out uninjured. Altogether, the weight of fallen rock is estimated at 1,000 centners [about a ton]. The family room and the entire front of the house known as the "*Nussbäumbi*" were torn clean away. Since Friday no further fall has been eported. *The cutting away of the woods is the supposed cause of the disaster.*

A BRIEF RETROSPECT.

Early in the fourteenth century, in the more thickly populated sections of Switzerland, the people appear to have been forced, through

apprehension of a deficiency in their wood supply, to take some measures for the preservation of their forests. In the year 1314, Zurich forbade its foresters (*Vorsters*), to "fell, raft, or sell wood from the Sihlwald." In 1339 Schwyz issued a prohibition against charcoal burning, and in 1438 Freiburg decreed that no wood should be cut in the environs of the city. In Entlebuch, it was forbidden in 1471 "to draw wood from forests situated high up in the mountains," and in 1592 Berne called attention to the need of economy in the use of wood. Finally similar decrees became general, but while serving to preserve forest areas, they proved a hindrance to the progress of agricultural and vine-growing interests. Zurich, for instance, in 1563, forbade the establishment of any new vineyards, and the prohibition was kept in force up to the beginning of the eighteenth century. At that period the dread of a deficiency of wood became so general that it was even forbidden to purvey or export any of it from one village to another. Contemporaneously with these prohibitions were issued others forbidding the pasturage of cattle, sheep, and goats in the forests. The old law generally ran in some such homely text as this:

Whoever keeps a cow at home in summer is allowed to drive no goats, and nobody more than he actually requires for his house-keeping.

But spite of all these precautions and prohibitive measures, the lack of combined action became painfully apparent. Moreover the individual owners were refractory, resented interference, and held on to their woodlands, so that, in fact, to-day the comparatively small forest area belonging to the state is what has principally been acquired by direct purchase, by inheritance, or by the suppression of monasteries, as in the Bernese Jura, in Thurgau, and in Schaffhausen.

With the advent, however, of the eighteenth century, Swiss forestry took on, in an official sense at least, a more active existence. In 1702 Zurich, always foremost in the work, appointed a commission to devise a general forestry system. In 1825 Berne followed suit, and later Freiburg, Lucerne, and Schwyz took action in the same direction. From this time on, the several cantons managed their own forestry matters as they wished, and entirely independent of each other, up to ten years ago, when the imperative needs of combined action having become apparent, the matter was taken in hand by the federal authorities, whose attention had been called to the pressing demand for legislative action to arrest the destruction of forests, especially in the higher mountain regions. Accordingly, on the 24th of March, 1876, a law was passed establishing federal control over the forests in all the mountain regions of Switzerland, embracing eight entire cantons, viz, Appenzell, Glarus, Graubunden, Schwyz, Tessin, Unterwalden, Uri, and Valais, and parts of seven others, viz, Berne, 41.48 per cent.; Freiburg, 32.70 per cent.; Lucerne, 53.50 per cent.; St. Gallen, 76.17 per cent.; Waadt, 22.98; Zug, —— per cent.; and Zurich, 6.86 per cent.

ZURICH'S FOREST SYSTEM.

As will be observed from the foregoing, Zurich has always evinced an actual and especial interest in forestry matters, and the result is that her forestry system at the present day is a model one, and is so regarded throughout Switzerland. Her forestry law, which has been in operation in its present form for over a quarter of a century, is so complete in every detail as to form a report in itself, and I have therefore translated it and incorporate it in full herewith.

I.—Organization.

(1) Cantonal, township, and corporation forests shall be subject to the control of the Government forestry system. Private forests come under the same provision, in so far as the safety of the others or regard for a common danger renders necessary.

(2) According to Article 49 of the law pertaining to the organization of the Government council, supreme control of the forestry system is vested in the direction of the interior. A yearly sum of 8,000 francs will be allowed it for the cost of management, and for the interests of forest culture, as, for instance, in the award of premiums for distinguished services, establishment of a course of instruction for foresters, &c.

(3) The canton is divided into four forestry districts, the limits of which shall be fixed by the council.

(4) The cantonal forestry board shall consist of one over-forestmaster and four district forestmasters. The council is authorized to furnish an adjunct thereto. In said board is vested the duty of superintending all forestry affairs. The maintenance of the cantonal forests, under control of the director of finance, is also transferred to it. The duties of its members will be especially determined by official instructions from the council.

(5) Only those who shall have passed a Government examination, as prescribed by the council, and have been declared competent by the direction of the interior, shall be employed as forestry officials.

(6) The over-forestmaster, the district forestmasters, and the adjunct shall be chosen by the council on the simple, though not binding, nomination of the direction of the interior. The term of service of the over and district forestmasters shall be for three years. The adjunct shall be chosen for a period to be fixed by the council. Retiring officers are eligible for re-election.

(7) The over-forestmaster receives a salary of 3,500 francs. When traveling on official business, his cash outlays will be reimbursed. The further sum of 1,000 francs is allowed for clerk and office expenses.

(8) District forestmasters receive an annual salary of 2,200 francs. While on official journeys on forest service, they receive a daily allowance of 10 francs, and while on official journeys, in the interest of cantonal forests, a daily allowance to be determined by the council.

(9) The council shall fix the sum to be paid to the adjunct out of the appropriation provided in Article 2.

(10) The daily allowances, when involving cash outlays, shall be paid from the cantonal forestry fund or from the appropriation provided in Article 2, depending on whether they concern business connected with the cantonal or non-cantonal forests.

(11) Forestry officials are required to give bonds in amounts to be determined by the council.

(12) Each corporation shall elect a board of overseers of not less than three members, for a period of three years, and shall give notice of such election to the direction of the interior.

(13) The employment of foresters is obligatory upon (*a*) the canton for all forests directly or indirectly belonging to it, (*b*) all forest-owning townships, and (*c*) wood corporations. Townships and corporations are directed to appoint an over-forester. Several townships or corporations may unite on one and the same person for this purpose. Forestry officials appointed by townships and corporations, are at the same time subordinate to the cantonal forestry officials in matters pertaining to cantonal forests.

(14) Townships, corporations, and private owners are to pay the salaries of forestry officers appointed by them. Where the forests of a township or corporation are so small that such salary does not amount to 100 francs, then the township or corporation in question shall unite with one or several neighboring townships or corporations to appoint a forester in common. The proper method of procedure in such case shall be determined by the direction of the interior.

(15) Cantonal foresters shall be chosen by the direction of finance on the simple, though not binding, nomination of the over-forestmaster. The choice of township and corporation over-foresters and foresters is vested in the boards of overseers, which may for this purpose be increased to six or eight members. The term of service for over-foresters and foresters shall be three years. Elections shall always be held after the renewal of the board of overseers. Retiring members are eligible for re-election. This period of service takes effect in individual cases from the first election held after the promulgation of this law.

(16) The providing of foresters for private forests is left to the owners. But in case a forest district is adjacent, the owners may decide upon the appointment of a forester and be present at his election, at which the minority must submit and assume its proportional share of the salary. The proportional voice in voting, as well as in paying, shall be determined on a ratio of the area represented. Private individuals may, with consent of the township or corporations, transfer to the lat-

ter's foresters the care of their forests, in which case they shall arrange with said township or corporation what they are to pay.

(17) Applicants for the position of over-forester must furnish proof of their competency in the form of an essay to be submitted to the over-forestmaster. Special instructions as to the nature of such essay will be furnished in an order from the direction of the interior. As conditions of eligibility as forester, active citizenship, a good physical constitution, and a knowledge of reading, writing, and arithmetic will be required.

(18) Elections of over-foresters and foresters by boards of overseers of townships and corporations are subject to examination and confirmation by the direction of the interior. To this end certificates stating the manner of election, name, age, and former employment of the candidate, and the annual salary pertaining to the position, shall be forwarded, through the statthalter's office, to the direction of the interior. The examination by the latter covers in part the validity of the elections and in part the existence of the lawful qualifications, and it is ordered that confirmation be withheld where a candidate has previously been convicted of serious violations of or misdemeanors against forestry regulations. After confirmation the newly elected candidate is ordered to be sworn (oaths are no longer administered, the "hand vow," as it is called, having been substituted), which duty is to be performed by the statthalter's office. Private owners appointing foresters must have them sworn by the statthalter's office.

(19) Sworn forestry employés stand, in regard to the performance of police duties, on an equal footing with police employés. The same official credit is consequently to be accorded to their reports, made under the provisions of Article 96 and the following articles of this law, as would be accorded to the same if made by the police officers.

(20) It shall be the duty of foresters in the cantonal, township, and corporation forests to attend a course of instruction on the subject of forestry, to be provided by the direction of the interior and imparted by the forestmasters. They may be required by the direction of the interior to attend a second course when a previous examination shall have proved unsatisfactory. They receive their service instructions from the direction of the interior. Foresters in private forests shall be allowed to participate in the courses of instruction referred to.

(21) The consent of the direction of the interior is necessary whenever the over-forestmaster, forestmasters, or foresters in cantonal forests desire to fill any other official position or follow any other pursuit in conjunction with their position as stated. Over-foresters and foresters in township and corporation forests cannot at the same time be members of their election boards. Before entering upon any other township office or service they must procure the consent of the direction of the interior.

(22) The following of any business in wood or manufactured woodenware, or of any industry in which wood is the leading material, is unconditionally forbidden for all persons in the cantonal, township, and corporation forestry service.

II.—Maintenance of forests.

A.—*General regulations.*

(23) Cantonal, township, and corporation forests shall be stringently maintained, and the plans therefor shall be elaborated in accordance with this principal decree. For insuring the area and the establishment of an assured plan of maintenance for the same, these forests shall be marked off and surveyed according to existing regulations for that purpose.

(24) Where cantonal, township, or corporation forests border upon others, it shall be the duty of each adjacent owner to keep open a common line of demarkation at least 3 feet in width, to which each shall contribute one-half, and so laid out that each stone post can easily be seen from the other. In order that this may also be possible where the forest borders on a meadow or other piece of land, the border line must always be kept clear. The stone posting must be carefully maintained, and where border marks are lacking they must at once be replaced.

(25) All cultivable barrens, as well as all clearings devoid of adequate natural growth, shall be promptly replanted.

(26) In central forests the upper branches are to be kept up, with a view to promoting their growth as well as circumstances will permit, and upon the special recommendation of the forestmaster.

(27) The irregular chopping down of trees all through a forest is, in the larger forests, where chopping is possible, only permitted in exceptional cases and when circumstances render it necessary; otherwise it is entirely prohibited. The establishment of barren clearings is also prohibited when it endangers the safety of the ground or tends to climatic disadvantages.

(28) All clearings, unless special circumstances suggest a deviation from the rule, are to be made as nearly as possible in unbroken parallel lines, and in such a manner that the trees left standing shall be best protected from damage by wind.

(29) In sown spots and clearings on steep mountain slopes, where there is a fear of land-slides, stumps shall not be dug out without consent of the forestmaster.

(30) The regulation concerning the immediate replanting of cultivable barrens and insufficiently planted clearings, as well as the prohibition against barren clearings and digging out of stumps, applies also to such private forests the digging up or clearing of which might entail consequences of common danger, such as loosening of the earth, &c. The owner of such a forest is, moreover, bound to establish and maintain a proper system of drainage.

(31) The removal of weeds and rotten wood and the trimming up of the forests must, under all circumstances, be done as soon and as often as necessary, in order, through the former, to diminish the hindrances to the growth of the wood, and, through the latter, to avoid injurious pressure upon the growth of the principal trees.

(32) Thinning out must be confined to the removal of dead branches, and to such parts of the branches as exert an injurious effect upon the front and upper growth.

(33) As osier twigs only the following are to be cut, viz:

(*a*) Willow, hazel, and other twigs from young forests.

(*b*) Bent trees of all kinds, not over six years old in lower or twelve years old in upper forests.

The cutting shall be done under police supervision, as prescribed in Article 59.

(34) Cuttings for pine brooms shall only be taken from the loose wood from the clearing and trimming of the forest. It is forbidden to take cuttings for birch brooms from the upper boughs or outside of wood coming from clearing and trimming.

(35) The pursuit of kindred forest uses (pasturage, leaf-gathering, &c.) is only followed under the conditions provided in Articles 58 and 61–67. This should at no time involve any risk to the wood yield.

B.—*Special regulations concerning cantonal forests.*

(36) Plans for the cultivation of cantonal forests must be based upon a careful estimate of their yield.

(37) The sale of forest products shall generally be conducted at public auctions, according to rules prescribed by the direction of finance.

C.—*Special regulations concerning township and corporation forests.*

(38) Township and corporation forests shall be maintained as prescribed in Article 23. The plans for such maintenance, which will be prepared by the district forestmasters, with a view to the requirements of the owners interested and on the basis of a previous survey, are, after acceptance by the boards of overseers and examination by the over-forester, subject to approval by the direction of the interior.

(39) The canton contributes a sum not to exceed one-half of the regular tariff cost toward the expense of surveys ordered by the direction of the interior for forestry purposes, provided such surveys are carried out as required by law. The expense of any subsequent surveys which may be necessitated by changes of area or revision of boundaries is borne by the owner.

(40) District forestmasters shall visit the township and corporation forests regularly, and that as often as their duties of forest police superintendence render necessary. On such visits they shall acquaint the overseers or over-foresters, who, together with the forester, shall accompany them whenever they visit the forest, with the necessary instructions relative to the locations of the clearings and the performance of the work of thinning out, weeding, and cultivation, and shall collect materials for plans of cultivation, reports upon the same, and methods for regulating the yield.

(41) Plans for cultivation shall at the proper time be submitted by the district forestmasters to the over-forester for examination, and for procuring the approval of the direction of the interior thereto.

(42) The over-forester shall make a report yearly to the direction of the interior concerning the management of the township and corporation forests, and to this end the district forestmaster shall furnish him special reports at the proper time.

(43) Overseers are responsible for the execution of the rules pertaining to the plans of cultivation and of the orders of forestry officials. They shall collect the necessary materials for the annual reports of the district forestmasters, such as regulation of yield, reports on cultivation, &c.

(44) Any unusual consumption of wood exceeding the fixed yield, as well as other deviations from the plan of cultivation or the decrees of the district forestmasters, can only occur with the consent of the direction of the interior. The application and distribution of the yearly forest yield are not subject to the control of the forestry police.

III.—Forest police regulations.

A.—*Digging up—Transfer—Distribution.*

45. Cantonal forests within the cantons shall not only remain in their present condition as regards area, but where opportunity offers shall as far as possible be districted with adjacent forests, while, on the other hand, smaller scattered pieces of woodland shall be disposed of. In case of such sale the direction of the interior shall see that the forest so disposed of is replaced by an equivalent purchase of land.

(46) Township or corporation forests cannot, without consent of the Government council, be either entirely or partially dug up, transferred, distributed, or, more especially, burdened with any contract for the delivery of wood, or for kindred uses. In case of a mortgage, as well as of a foreclosure, a forest continues subject to the existing regulations concerning township and corporation forests; when single parts of a forest system pass in such manner into various hands, such parts continue bound to the general plan of cultivation, and mention of this fact shall be made in the bill of transfer and in the bond.

(47) When, in consequence of township laws in such cases made and provided, forests are burdened with claims to the wood, the manner and extent of the delivery of the same shall be determined with accuracy.

B.—*Time for felling and removing timber.*

(48) The time for felling begins with the commencement of September and ends with the end of March. Exceptions are as follows:

(*a*) In mountain forests where, owing to early snow, felling must be done sooner.

(*b*) In bark forests, where the oaks cannot be stripped of bark until the sap runs.

(*c*) In forests from which the wood is rafted.

Excepting in pressing cases, no wood is to be cut during any period other than that above prescribed. The clearing away of rotten wood, brush, &c., from young undergrowths, clearings, and artificially-constructed young forest areas, may be regarded as belong ing to the work of cultivation and may be performed at any time.

(49) The removal of felled wood must be completed by the end of April, and neither waste wood, twigs, nor bark shall be left lying in the clearing. In case wood remains lying in the forest beyond the lawful time, it is the duty of every forester becoming aware of the fact to report it to the forest master. It is the latter's duty, through the township authorities, to have it removed outside of the clearing, and in case it be coniferous wood to strip it of bark and have the bark burned. The expense in such case shall be borne entirely by the proprietor of the forest and the owner of the timber.

(50) Exceptions to Article 49 may be allowed as follows:

(*a*) In forests as enumerated in Article 48.

(*b*) When local circumstances render the removal of the timber impossible.

In such cases the timber shall be removed as soon as it becomes possible, or at all events shall be placed on the road for removal, and the bark stripped from the coniferous wood and either carried away or burned.

C.—*Measures against fires.*

(51) No fire shall be kindled in forests, or in their immediate neighborhood, or in any peat-bed adjacent to one, without a permit from the local police, who shall provide the proper measures for safety.

(52) Exceptions may, however, be made to the foregoing paragraph when no wind is blowing, in the following cases, viz:

1. The wood-chopper's fire in the clearing marked out for him. Choppers shall light their fires in spots where there is no danger, and shall therefore first remove all inflammable objects; they shall also on going away totally extinguish the fire.

2. The fire for burning roots, singeing, moth-burning, &c., preparatory to field or forest cultivation. In such cases it is directed that—

(*a*) A flame-fire shall not be used in the forest, but that, in rendering the barrens arable, the upper surface be raked over, collected in heaps, and carefully burned.

(*b*) In burning over opens, fields and farms adjoining forests, an intervening space of at least 10 paces shall be dug up and a requisite number of workmen be kept constantly at hand to extinguish the fire in case it exceeds its bounds.

(53) Charcoal burning, and ash burning, shall only be carried on upon spots designated by the forestmaster.

D.—*Measures against insects.*

(54) Foresters are required to be watchful for any signs of nest-building by insects hurtful to wood, and on discovering any such, either within or without their respect

ive districts, to report the same to the owner of the forest, and to the forestmaster whereupon the latter shall without delay take the necessary measures.

Likewise, township and corporation overseers, as well as private forest owners, are obliged to report promptly to the forestmaster any injuries by insects coming to their notice, and are held in all cases to an unconditional compliance with the measures decreed by the forestry authorities for protection against damages by insects. Forestmasters shall, as far as possible, instruct foresters in regard to indications of the presence of hurtful insects, and the means of destroying the same.

(55) Forest owners are required to remove immediately all breakages by wind or snow, and diseased or withered coniferous boughs, and to dig up or at least strip of bark the coniferous stumps.

E.—*Regulations concerning the uses of forests.*

(56) The dressing of timber and the putting together of buildings on clearings is forbidden where there is any aftergrowth, or where a renewal of growth is delayed thereby.

(57) The felling, working, or removal of forest products before day, after nightfall, or on Sundays and holidays, is forbidden.

(58) The barking of standing trunks or poles in middle or lower forest clearings is forbidden.

(59) The chopping of osier twigs can only be performed in such manner as shall be prescribed by the overseers in accordance with Article 33, and on fixed days under the superintendence of the overseers and the foresters.

(60) The gathering of chips and waste-wood (in the absence of other lawfull founded regulations) shall only be performed under the following limitations, viz:

(*a*) Chip and waste wood only includes wood of less than two inches in diameter which has died from natural causes, or which remains lying on the ground after the clearing has been entirely completed.

(*b*) The gathering of chips and waste-wood is consequently not permitted in clearings or where the forest has been trimmed, or in places damaged by wind, snow, and ice, until the material not coming under the head of chip and waste wood has first been removed.

(*c*) The bringing of tools of any kind whatever, the breaking down of standing poles, and the breaking or tearing off of branches of trees is forbidden.

(*d*) No gathering shall take place save at the days and hours designated by the forest-owner.

(*e*) The gatherer shall collect only as many chips as he desires to carry home. The removal of chips in carts, as well as the sale of wood so gathered, is forbidden.

(61) Where forest pasturage still exists it shall be subject to the following conditions, viz:

(*a*) Sheep, goats, and horses are to be entirely excluded therefrom.

(*b*) It can only be allowed under the supervision of a herdsman.

(*c*) Growths of saplings, clearings, woods under cultivation, and coppices must be protected from the driving in of pasture cattle, so long as danger of damage to the growth is to be apprehended therefrom.

(*d*) The driving in of cattle after sundown or before sunrise is forbidden.

(62) The gathering of grass and litter outside of existing forest roads and paths, or of the barrens, is only permitted by special consent of the forestmaster and under the following limitations, viz:

(*a*) The use of a scythe in gathering grass, save on the barrens and highways, is forbidden.

(*b*) The gathering of leaves, fallen pine needles, and moss is entirely forbidden on sunny sides, steep slopes, and thin ground. It must not be undertaken in high situated, leaf-bearing forests before the fourteenth year of their growth, in coniferous forests before their thirteenth year, nor in middle and lower forests before the twelfth year; and in all cases it must be discontinued again three years before the time for chopping. Litter shall only be gathered in any forest once in every three years. The use of other utensils than wooden rakes and loose brooms is forbidden.

(*c*) The cutting of heath and bilberry herbs can only take place by consent of the forestmaster and according to his instructions.

(*d*) Pruned leaves shall not be taken from standing trees.

(*e*) Litter, when gathered, shall not be removed from the forest in carts, but must be carried by hand to the highway.

(63) Alternate use for agricultural purposes can only be permitted on dry clearings devoid of after-growth, and only there when the ground is very dry and lacking in moisture. It shall not continue for longer than two years without an alternate interval of tree planting, and the digging over must be done immediately in the following year.

(64) The extraction of resin is only permissible in forests which are to be cleared within the ensuing three years.

(65) The gathering of acorns and beechnuts when they are required for natural sowing, that is, in forests which have been taken in hand for renewal. Such rights are limited to picking up acorns and beechnuts that have fallen off in the natural way.

(66) The gathering of forest berries in sown and planted lands under five years old is forbidden.

(67) The forestmaster's consent is necessary to the opening of quarries of clay, sand and gravel pits, and peat beds within the forests; and he shall, in important cases, procure an order therefor from the over-forester.

(68) Annulled.

IV.—Concerning forest privileges.

A.—*General regulations.*

(69) The owner of a privilege is required in availing himself thereof to conform to the forest police regulations as contained in the present law. In case such privilege is hereby limited in its character or extent, he must come to an understanding with the owner of the forest in regard thereto.

(70) Such privileges shall not embarrass the owner of a forest in the proper cultivation thereof, nor in making such changes in the kind of wood grown therein, or in the management thereof, as the nature of the soil and climate may require. The continuance of privileges prejudicial to culture must be abated up to such time as they can be advantageously disposed of. In such cases the owner of the privilege may raise a claim for damages only where the need of abatement is brought about by a non-continuance of cultivation on the forest owner's part. Where changes become necessary in the kind of wood grown, or in the manner of growing it, and in consequence thereof as privileges cannot be exercised in the same manner as formerly indemnification shall be made, so far as circumstances permit, by transfer of an equivalent, and previously existing privilege in some other forest, or in money.

(71) The forest-owner, as well as the owner of a privilege, is directed to demand the conversion of undefined forest privileges into those that are defined.

(72) All burdensome privileges in forests are subject to cancellation by the forest-owner.

(73) Recovery shall be made either in a money payment equal to twenty times the value of an average net profit calculated on the basis of the last twenty-five years, or by making over such part of the forest itself as is equivalent in value to such privileges, calculated on the basis of a twenty-five years' average. But if it be shown that in single years during such period the yield of profit has, through any unusual causes, increased or diminished, such years shall be dropped from the twenty-five embraced in the calculations and replaced by an equivalent number of years next previous. The forest-owner has choice as to the manner of recovery, excepting in cases provided in the "Law Book of Private Rights." But under all circumstances, and of course in the case provided for in this exception, a settlement by transfer of woodland can only take place when the portion remaining in the owner's possession, as well as the portion to be transferred, admits of a separate and regular cultivation. Only in very extreme cases can the Government council consent to an exceptional deviation from this rule concerning settlement by transfers of woodland. Where forests are partitioned off in consequence of separation, or cantonal, township, or corporation distributions, the portions of woodland falling to each party concerned remain subject to the provisions of this law applicable to cantonal, township, and corporation forests. Where recovery is made in money, and the privilege disposed of is mortgaged before a notary, procedure in regard to the price of sale must be had in accordance with the provision of the "Law for the Transfer of Private Rights."

(74) In any cases not herein provided for the exercise of privileges must conform to the requirements of the ensuing paragraphs, when no modification is agreed upon by contract, usage, or other title of right between the parties interested.

B.—*Concerning individual privileges.*

The right to fell wood.

(75) Timber right covers only such wood as the party possessing said right needs within two years, at furthest, from the day of felling for use, conformably to the conditions thereof.

(76) The right to branches includes only those of felled trunks; the right to upper wood, on the other hand, includes the entire crowns of the tree, the branches, and trunk from the beginning of the crown. The chopping off of green or withered boughs

from standing trees up to a certain height and thickness can, consequently, only take place when it is expressly so stipulated in the title.

(77) The right to wood broken off by wind, snow, or exhalations only covers such pieces as are entirely broken off from the trunks, and in no case the portion of the trunk remaining standing with its roots in the earth, or trunks merely bent or displaced, or branches hanging to the trunk. Trees torn up by the roots may be classed as "windfall" when broken in two by the fall. The rights mentioned in this article do not extend to cases where, by reason of storm, snow, or exhalations, whole stretches of forest are laid waste, or where a large number of tree trunks at one point are leveled or depressed.

(78) The right to dead, withered standing wood includes only such trees and saplings as have become withered without any outward cause effected by human agency. The forest-owner is directed to designate certain days for the pointing out and removal of withered wood.

(79) When, in consequence of damage by snow, wind, insects, or other natural causes, wood in great quantities dies or falls off, the owner of a privilege to gather such is entitled to demand no more than he requires for one year's use.

(80) By the term *"Lager holzrecht"* (right to wood for storage) is understood the right to carry away dead wood from large or small trunks which have fallen of themselves.

(81) The right to stump-wood is limited to that part of the tree, with roots, still projecting above the earth after the chopping or cutting away of the trunk; but it never includes stumps or roots from which shoots are to be used for replanting the forest. Digging up of the stump must occur in the year following the felling of the tree. In clearings with overgrowth, in young growths, and on steep slopes it must not occur at all. In digging out stumps no injury must be done to the trees in close proximity thereto. The owner of the privilege is required to fill up the stump-holes with earth and to level them off.

(82) The extent of chip and waste-wood privileges and the conditions to which the owner thereof must conform are stated in Article 60.

PASTURE RIGHTS.

(83) A pasture right embraces the right of grazing by cattle, but not the right to use the grass by mowing, cutting, or pulling up. An owner of a pasture right cannot claim the right to use the grass instead of the right to pasturage. Such owner can drive to pasture only his own cattle, belonging to the working of his farm, but no strange cattle, or cattle bought for trading. He may not, moreover, transfer his right to others.

(84) The following regulations, outside of those prescribed in Article 61, are valid in the exercise of pasture rights, viz:

(*a*) The use of forest pasturage begins with the month of May and ends with the end of September.

(*b*) During protracted rainy weather forest pasturage is not allowed.

(*c*) When the way leading to a pasture district passes through a district closed to pasturage, such way must be marked out by the forest-owner.

(*d*) The herdsman, as representing the owner of the pasture right is responsible for cattle straying into those parts of the forest which are to be protected, *i. e.*, in so far as he does not at once pursue them and bring them back to the herd.

RIGHTS TO LEAVES AND LITTER.

(85) The right to leaves and litter embraces the privilege of gathering fallen leaves and pine needles and moss for the gatherer's own use. This right can only be exercised from the end of August up to the falling of the new leaves, and under the rules precribed in Article 62, *b* and *c*.

RIGHT TO GATHER NUTS.

(86) The provisions of Article 65 are valid in regard to the extent and exercise of this right.

PIT RIGHTS.

(87) The right to dig out sand, clay, stone, gravel, &c., is coupled with the following regulations, viz:

(*a*) The owner of the right shall only dig for what is stated in his title.

(*b*) He can only exercise such right in old pits so long as they continue to supply the requisite material, only opening new pits by instructions previously received from the forest-owner.

(c) He is obliged to keep in order the road leading to the pit, and shall not, of his own accord, open a new one.
(d) He shall, as far as possible, level off the entrance to the pit.
(e) Upon him depend the means of safety against accidents, as well in new as in abandoned pits.
(88) The forest-owner is directed to forbid, until further decision by the police authorities, the use of any pit where there is reason to apprehend a caving in upon the workmen, a falling in of the railing or path around it, or any similar occurrence.

V.—Concerning forest offenses.

1. *Jurisdiction and penalties.*

(89) Thefts and other offenses coming under the provisions of the criminal law are conditionally subject to the provision of Article 91 of "Judicial Sentences." In regard to other trespasses (forest offenses) the following decrees are valid, viz:
(90) Forest offenses on the part of persons in the forestry service, or of township and corporation and other overseers, will be treated as disciplinary offenses, according to the provisions of the "Law Concerning Order and Penalties," in so far as, under the following regulations, no higher than the ordinary judicial penalty is imposed. Penalties upon persons employed in the forestry service shall be imposed by the forestry authorities, those upon townships and corporations by the direction of the interior.
(91) Other forest offenses and misdemeanors, among which latter are to be enumerated thefts of wood, twigs, &c., in value not exceeding two francs, will be treated as police trespasses, according to the provisions of the "Law Concerning Order and Police Penalties."
(92) Violations of the provisions contained in the present law, viewed in the way of indemnifications, entail the following penalties, viz:
(a) For disregard of the provisions of Article 48–55, concerning the period for felling and removing wood, and danger by fire, and damages by insects, from 3 to 35 francs.
(b) For unauthorized pasturing in old forests, 1 to 3 francs per head of cattle; for trespass against limitations specified in Article 61, 2 to 6 francs per head; in any case the fine shall not exceed the sum of 40 francs; the party who, either in person or through the agency of his (or her) children, servants, or employés, causes such unauthorized pasturages is to be held therefor.
(c) For violating the provisions of Article 62 and Articles 64–67, concerning kindred uses (*Nebennutzungen*), 2 to 20 francs.
(d) For driving outside of the forest roads, or damage of any kind to boundary marks, 2 to 10 francs.
(e) For the unauthorized use of axes, saws, or similar instruments in the forests, 2 to 5 francs.
(f) For offenses for which no special penalty is provided, 2 to 50 francs.
In cases of violations of the foregoing regulations by overseers or foresters the fine will be doubled.
(93) In case boards of overseers are guilty of official disregard of the provisions of this law, or neglect in enforcing its directions, each derelict member thereof shall be liable to a fine of from 2 to 50 francs, and shall be held for the damage resulting therefrom to the forest.
(94) As well in the case of judicially punishable offenses as in the case of other violations, the following are to be regarded as aggravating features, viz:
(a) When the offense is committed before sunrise, after sunset, or on Sundays or holidays.
(b) When committed by persons employed at the time in the forest as wood-choppers, charcoal-burners, or generally in the exercise of any forest privilege.
(c) When the offender is armed, disguised, refuses to give his name and residence, or does so incorrectly.
(d) When he does not obey the forester's order, or offers any other resistance, in so far as his conduct does not fall under the provisions of the criminal law.
(e) When saws are used instead of axes, or when means are used to smother the sound of saw or ax.
(f) When the offense is committed with the intention of selling either the natural or wrought products of the forest.

2. *Method of procedure for forestry officials and foresters in cases of forest trespass.*

(95) The over-forestmaster and the four forestmasters are required to report to the direction of the interior every violation of law committed by boards of overseers for townships and wood corporations, and to specify in detail the damage caused thereby.

(96) It is likewise the forester's duty to report to his superiors every violation of the forestry law committed within his district, and every such violation of which, in the discharge of his duty, he may become cognizant, even if outside of his district, as well as every trespass committed, and to prevent as far as possible the continuance thereof. Foresters are also charged with the maintenance of the game laws.

(97) The forester shall enter in his day-book detected offenses and trespasses in serial order, and when he discovers the perpetration, shall record his full name, with the day, hour, and place of the act, and the value of the articles stolen. He shall also note in connection therewith whether, in the commission of the trespass or pursuit of the trespasser, any of the aggravating features specified in Article 94 have transpired. At the end of every month the forester shall hand in his day-book to his superior officer, who shall set down the amount of compensation for damages (according to Article 104–106), and take steps to secure conviction. In case of more serious trespass, the forester will report to his superior immediately. If the forester observes that his superiors do not take steps to secure conviction, it is his duty to make a report of the fact to the over-forestmaster.

(98) If the perpetrator be unknown, or if a known offender, after notice has been given him, does not abstain from trespass and leave the forest, the forester is justified and duty bound to detain him, and deliver him over to the town authorities. Local police authorities and policemen are required in such cases to furnish assistance to the forester if he calls for it.

(99) The forester is authorized, partly as evidence of the offense and partly for the prevention of flight and from motives of personal safety, to take away from any unknown trespassers caught in the act, any tools or vehicles which he may have with him, or any cattle calculated to do damage; he must, however, at once turn them over to the town authorities, who shall hold them in seizure until sufficient security is deposited to cover damages and fine.

(100) If a forester meets upon the road, especially a forest road, a person carrying forbidden forest products, or coming out of the forest with wood at a time forbidden by law, he is justified in detaining such person, asking his name and address, and the way and manner in which he came into possession of the articles. If circumstances prove suspicious, or if he discover that the articles have been stolen, he shall proceed to the town authorities for an investigation of the facts in the case.

(101) Where trespasses are committed in a forest and the forester is not able to detect the perpetrator, while suspicious circumstances indicate a clue to his identity or to the place whither the stolen articles have been taken, the forester shall apply to the town official, or, in his absence, to his representative, and in company with the latter execute the necessary search-warrant.

(102) Foresters shall be provided with service badges and be armed so far as it is requisite for the discharge of their duties. Detailed instructions concerning the use of weapons will be furnished by the Government council.

3. *Concerning value and amount of damages.*

(103) The value of stolen articles shall be determined on the basis of local prices at the time the trespass is committed. In addition to this value, the trespasser shall make good the amount of damage, according to the provisions of the following articles:

(104) The amount of damage shall be calculated as follows, viz:

1. For thefts of standing timber:

(*a*) For green wood when the crown fork is not broken, one-half the value.

(*b*) For green wood when the crown fork is broken; further for seed trees, upper-wood branches in middle forests, and split poles in lower forest, the entire value.

(*c*) For the cutting of twigs and osiers, in violation of Article 33, double the value. In other cases, the simple value.

(*d*) For cases where other trees, aftergrowth, or stump-sproutings are damaged by the felling and removal of stolen wood, the simple value.

For damage to older trees, the amount specified in § 2, in addition to cost of making the damage good; and

For damage to stump-sproutings under eight years old, four times the value.

(*e*) For stumps liable to sprout, four times the valne.

Otherwise for thefts of stump-wood, the provisions of letter (*d*) above are applicable.

2. For damage to standing timber:

(*a*) When resulting in the death of the tree, the amount stated in § 1, letters (*a*) and (*b*) of this article.

(*b*) When not involving the death of the tree, from a half down to a tenth of the value of the tree or pole damaged, according to the extent to which their usefulness has been impaired or their growth disturbed.

(105) In cases of theft of plants, the amount of damages shall be as follows, viz:

(*a*) For plants taken from young growths under ten (10) years old and where no subsequent repair is necessary, the simple value.

Where such is necessary, three times the value.

(*b*) For plants taken from seed schools and nurseries, in all cases three times the value.

106. The following damages are to be reckoned for the unauthorized use of forest privileges, viz:

(*a*) For pasturage and the use of grass, the value of the damage inflicted, which, however, shall equal at least one-half of the penalty. The owner or proprietor of the cattle is to be held responsible for the payment of value and damages.

(*b*) For gathering litter in localities prohibited in Article 62, letter (*b*), or for use of unauthorized tools, the simple value of the litter outside of the locality under prohibition.

(*c*) For taking resin, according to the value of the tree tapped and from the full amount of such value down to a tenth of the same, according as the tree has been impaired in usefulness or disturbed in growth or brought entirely down, and, in the latter case, by being removed, has been broken off at the crown fork.

(*d*) For gathering nuts, wood-seed, wild fruit, wood berries, &c., five times the value of the articles stolen.

(*e*) If stone, sand, gravel, peat, &c., are stolen, the damages, to the forest is to be estimated according to Article 104, Fig. 2, letter (*a*), and to this must be added the cost of restoring the former conditions.

107. Concerning detention for payment of values and damages, the provisions of Article 1872–'4 of the Law of Private Rights are applicable, with reserve as to the case designated in Article 106, letter (*a*).

108. The amount of value and damages shall, as a rule, be determined by the authorities imposing the penalty. Where such authorities are not judicial ones, each party has the right, within eight days, to protest against the decision, and in such case it remains for the claimant to make good his claim by the usual legal procedure.

109. This law takes effect January 1, 1860, in regard to the salaries fixed in Articles 7 and 8; and January 1, 1861, in regard to its remaining provisions. The forestry law of September 29, 1837, and the supplementary law of June 24, 1840, are hereby repealed. The Government council is charged with the execution hereof.

Forest trees of Switzerland.

I.—LEAF-BEARING GENUS.

No	Species.	Where found.
1	Alpine bean tree	Jura and Southern Switzerland.
2	Alpine alder.....	Everywhere up to 2,000 meters altitude.
3	Ordinary apple*.....	Everywhere.
4	Aspen.....	Everywhere up to 1,200 meters altitude.
5	Bastard wild ash	Rare.
6	Mountain maple.....	Everywhere up to 1,600 meters altitude.
7	Ordinary pear*	Everywhere.
8	Ordinary birch	In Central and Northern Switzerland up to 1,300 meters altitude, and in Western Switzerland up to 1,750 meters.
9	Bean tree.....	Everywhere, both wild and as an ornamental shrub.
10	Marsh willow	Everywhere.
11	Beech	Everywhere, up to 1,000–3,000 meters altitude.
12	Boxwood	Jura.
13	Cirr. oak.....	Canton Tessin.
14	Wild ash (S. or B. apple)	Everywhere up to 1,800 meters altitude.
15	Cultivated .... do....	Quite rare.
16	Lotus tree	General; highest altitude, 650 meters.
17	Ash	Everywhere in Central Switzerland up to 1,150 meters altitude; in the Bernese Alps up to 1,300 meters.
18	Black alder.....	Everywhere up to 1,000 meters altitude.
19	Field maple	Not often met with; highest altitude, 700 meters.
20	Wild cherry.....	Quite common.
21	Slippery elm	In the Alps up to 800 meters altitude.
22	Gray willow	Everywhere.
23	Grove beech.....	Everywhere in the Jura up to 800 meters, and in the Alps up to 900–1,100 meters altitude.
24	Dogwood	Everywhere.
25	Hazel.....	Everywhere up to 1,200–1,300 meters altitude.
26	Black elder.....	Everywhere up to 1,100 meters altitude.
27	Hop beech.....	In Italian Switzerland.
28	Caspian willow*	Imported from Russia.
29	Chestnut	In the milder sections of Switzerland, *i. e.*, Canton Tessin, up to 900 meters altitude.
30	Basket-willow	Everywhere.
31	Buch-thistle.....	Quite common; highest altitude, 1,000 meters.

* Of foreign origin.

Forest trees of Switzerland—Continued.

I.—LEAF-BEARING GENUS—Continued.

No.	Species.	Where found.
32	Liguster	Everywhere.
33	Laurel	In Tessin.
34	Bay willow	Everywhere.
35	Almond willow	Do.
36	Mulberry*	In Tessin; imported from Asia Minor, Persia, and China.
37	Meal-tree	Everywhere.
38	Medlar*	Quite rare.
39	Weeping willow	Everywhere.
40	Plane tree (occidentalis)*.	In deep valleys; imported from North America.
41	Purple-willow	Everywhere.
42	Poplar (pyramid or Italian)*.	Everywhere; imported from Persia.
43	Quince*	Imported from the Orient.
44	Common acacia*	Everywhere; imported from North America.
45	Horse chestnut*	Everywhere; originates in East India.
46	Hair-birch	
47	Sallow willow	Everywhere.
48	Sand thistle	Do.
49	Bitter thistle	Everywhere; highest altitude, 1,600 meters.
50	Twining-shrub	Everywhere; highest altitude, 1,400 meters.
51	Snowball	Everywhere; highest altitude, 1,100 meters.
52	Black thistle	Everywhere.
53	Black alder	Everywhere; highest altitude in Alps, 1,100–1,300 meters.
54	Black poplar	Everywhere.
55	Silver poplar	Do.
56	Silver willow*	Everywhere; imported from Siberia, Caucasus, and the Orient.
57	Summer linden	Everywhere.
58	Spindle tree	Everywhere; highest altitude, 900 meters.
59	Pointed maple	Everywhere; highest altitude, 1,300 meters.
60	Holly tree	Everywhere; highest altitude, 1,400 meters.
61	Summer oak	Everywhere; highest altitude in Jura, 700 meters, and in the Central Alps, 800–1,000 meters.
62	Winter oak	Everywhere; highest altitude, 1,000–1,300 meters.
63	Red-berry alder	Everywhere; highest altitude, 1,500 meters.
64	Red cherry	Quite general.
65	Ordinary elm	Everywhere; highest altitude, 1,100–1,300 meters.
66	Bird cherry*	Everywhere; highest altitude, 1,000 meters.
67	Ordinary walnut	Everywhere; highest altitude, 800–1,150 meters; originates in Asia.
68	Gray walnut*	Originates in North America.
69	Black walnut*	Originates in North America; found in levels and hilly places.
70	White thistle	Everywhere; highest altitude, 900 meters.
71	White alder	Everywhere; highest altitude, 1,400 meters.
72	Winter linden	Everywhere; highest altitude, 1,200 meters.
73	Zuergel (?)	In Southern Switzerland.
74	Dwarf birch	Rare; found in the Alps.

II.—CONIFEROUS GENUS.

1	Siberian pine	Found in the Alps, especially in the Upper Engadine and Bernese Overland; highest altitude, 2,300 meters.
2	Mountain fir	In the Alps and fore-Alps; highest altitude, 1,000–2,000 meters; (*a*) forked fir, Southwestern Switzerland; (*b*) mugho fir, Southern Alps; (*c*) low fir, Alps.
3	Yew	Everywhere; but always among other species of wood.
4	Pine, red fir	Everywhere; highest altitude in West Switzerland, 1,650 meters; Central Switzerland, 1,700 meters; East Switzerland, 1,850 meters; Southern Switzerland, 2,000 meters.
5	Ordinary fir	Everywhere; highest altitude in Northern Switzerland, 1,750 meters; Central Alps, 1,900 meters.
6	Sarch	Everywhere; highest altitude in Northern Switzerland and Bernese Alps, 1,950–2,250 meters.
7	Savin	Rare.
8	Black fir*	
9	White pine	Everywhere; highest altitude in North Switzerland, 1,300 meters; Central Switzerland, 1,450 meters; Bernese Alps, 1,600 meters.
10	Ordinary juniper	Everywhhere; highest altitude, 1,200 meters.
11	Weymouth's fir*	Highest altitude, 1,200 meters.
12	Dwarf juniper	In the Alps up to the limit of tree-growth.

* Of foreign origin.

RATES OF FOREST GROWTH.

In various parts of Switzerland experiments have been carefully instituted to determine the rates of growth of different species of trees at various altitudes and exposures. The results of these have proved both

interesting and valuable. The following table includes such as pertain to the Canton Zurich.

Species.	Altitude above sea-level, meters.	Exposure.	Age, years.	Height, meters.	Diameter, meters.	Form number, meters.	Bulk, cubic meters.	Average growth.		
								Height meters.	Thickness, meters.	Bulk, cubic meters.
Fir	515	NW.	124	35	0.460	0.493	2.703	0.28	0.0048	0.0218
White pine	525	NE.	80	35	0.457	0.506	3.420	0.44	0.0092	0.0427
Lichen	525	NE.	74	32	0.392	0.520	2.010	0.45	0.0085	0.0251
Larch	530	Level.	110	33	0.390	0.493	1.944	0.30	0.0037	0.0177
Beech	620	NE.	112	29	0.423	0.552	2.249	0.28	0.0038	0.0201
Mountain maple	560	NE.	73	28	0.322	0.453	1.036	0.39	0.0044	0.0141
Elm	500	NE.	75	29	0.287	0.504	0.945	0.39	0.0038	0.0113

Rates of periodical growth of seven different species, by decades (Zurich).

Age in years.	Scotch pine.				White pine.				Lichens.				Larch.			
	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.
1 to 10	1.5	3.6	0.001	.....	2.0	2.9	0.002	.....	1.0	1.0	0.001	.....	4.0	4.2	0.007	.....
11 to 20	5.7	4.6	0.019	19.00	2.4	4.8	0.017	17.00	3.2	4.6	0.006	17.00	4.0	5.8	0.027	15.16
21 to 30	6.2	2.4	0.050	11.32	5.2	4.1	0.061	12.40	6.5	8.2	0.070	17.00	6.0	4.0	0.059	9.06
31 to 40	2.5	3.4	0.105	8.58	5.5	5.9	0.187	10.81	6.0	7.9	0.197	11.29	4.0	4.6	0.114	7.70
41 to 50	2.0	5.0	0.164	8.26	6.2	8.3	0.495	9.03	5.0	6.8	0.341	7.68	4.0	3.4	0.193	6.40
51 to 60	4.0	4.0	0.202	4.59	4.7	7.5	0.752	6.61	5.0	4.2	0.434	5.22	3.0	3.6	0.210	4.18
61 to 70	3.0	5.0	0.297	4.33	4.5	6.3	0.917	4.65	3.0	3.4	0.405	3.24	3.0	2.4	0.221	3.01
71 to 80	2.0	6.4	0.413	3.95	2.7	5.9	0.989	3.31	2.7	4.2	0.557	3.22	2.0	3.0	0.270	2.80
81 to 90	2.2	2.2	0.273	1.97	....	....	.....	.....	....	....	.....	.....	1.0	2.0	0.238	1.90
91 to 100	2.5	3.2	0.276	1.66	....	....	.....	.....	....	....	.....	.....	1.0	3.0	0.281	1.90
101 to 110	2.5	2.2	0.327	1.66	....	....	.....	.....	....	....	.....	.....	1.0	3.0	0.328	1.81
111 to 120	....	2.4	0.269	1.15	....	....	.....	.....	....	....	.....	.....	....	....	.....	.....
121 to 130	....	2.0	0.315	1.02	....	....	.....	.....	....	....	.....	.....	....	....	.....	.....

Age in years.	Beech.				Mountain maple.				Elm.			
	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.	Height in meters.	Thickness in centimeters.	Bulk in cubic meters.	Per cent.
1 to 10	0.5	3.0	0.003	.....	1.0	2.0	0.001	.....	1.0	0.2	0.001	.....
11 to 20	2.0	4.9	0.017	14.00	4.0	5.2	0.009	20.00	7.0	3.2	0.003	13.00
21 to 30	4.5	3.9	0.059	11.78	6.0	8.1	0.086	18.54	4.0	5.2	0.032	17.00
31 to 40	4.0	4.4	0.109	8.12	6.0	5.0	0.127	8.55	4.0	5.6	0.089	11.28
41 to 50	4.5	4.6	0.189	6.66	5.0	5.2	0.216	6.75	6.0	6.0	0.209	9.16
51 to 60	3.5	5.2	0.282	5.43	1.5	3.8	0.223	4.14	4.0	4.0	0.251	5.45
61 to 70	3.0	3.4	0.249	3.18	3.0	2.7	0.192	2.57	2.5	2.6	0.188	2.77
71 to 80	2.0	4.2	0.339	3.14	2.5	1.5	0.190	2.23	1.0	1.7	0.178	2.02
81 to 90	2.0	4.0	0.315	2.24	....	....	.....	.....	....	....	.....	.....
91 to 100	2.0	2.6	0.335	1.94	....	....	.....	.....	....	....	.....	.....
101 to 110	1.0	2.0	0.351	1.69	....	....	.....	.....	....	....	.....	.....
111 to 120	....	....	.....	.....	....	....	.....	.....	....	....	.....	.....
121 to 130	....	....	.....	.....	....	....	.....	.....	....	....	.....	.....

RATES OF GROWTH AT HIGH ALTITUDES.

A comparison of the foregoing results with those obtained from similar experiments in the Upper Engadine, as shown in the succeeding tables, show how great an advantage forest-owners in the lower hills, say 500 meters above the sea-level, possess over those in the mountains 1,500 to 2,000 meters above the sea, as, for instance, in the case of lichens and larches, which, during their first hundred years of growth, gain six times as much in bulk in the former localities as they do in the latter.

Species.	Altitude above sea-level.	Exposure.	Age.	Height.	Diameter.	Form number.	Bulk.	Average growth.
	Meters.		*Years.*	*Meters.*	*Meters.*		*Cubic meters.*	*Cubic meters.*
Low fir	1,860	S.	110	6.0	0.151	0.524	0.0563	0.00051
Mountain fir	1,590	Plateau	110	16.2	0.3197	0.422	0.6573	0.0060
Siberian pine	1,880	N.	230	17.0	0.3845	0.503	0.9938	0.0043
Larch	1,850	N.	170	21.0	0.3762	0.502	1.1718	0.0069
Lichen	1,865	NE.	140	22.5	0.3477	0.542	1.1591	0.0083

Rates of periodical growth of five different species at high altitudes, by decades (Upper Engadine).

Age in years.	Low fir.		Mountain fir.		Siberian pine.		Larch.		Lichen.	
	Bulk in cubic meters.	Per cent.	Bulk in cubic meters.	Per cent.	Bulk in cubic meters.	Per cent.	Bulk in cubic meters.	Per cent.	Bulk in cubic meters.	Per cent.
21 to 30	.....	.....	0.0389	.....	.....	.....	0.0012	.....	0.0010	.....
31 to 40	0.0003	.....	0.0766	5.70	.....	.....	0.0011	6.11	0.0060	14.63
41 to 50	0.0036	13.85	0.0927	5.49	0.0040	.....	0.0015	4.83	0.0167	10.85
51 to 60	0.0055	7.75	0.0875	3.38	0.0062	8.63	0.0044	7.21	0.0278	7.38
61 to 70	0.0075	5.51	0.0800	2.33	0.0199	9.85	0.0158	9.76	0.0515	6.66
71 to 80	0.0102	4.53	0.0866	2.03	0.0245	5.78	0.0460	9.83	0.0635	4.71
81 to 90	0.0092	2.86	0.0753	1.48	0.0419	5.54	0.0880	7.67	0.0954	4.45
91 to 100	0.0105	2.50	0.0581	1.04	0.0423	3.51	0.0941	4.57	0.1309	4.22
101 to 110	0.0090	1.73	0.0545	0.87	0.0481	2.95	0.0973	3.23	0.1891	3.81
111 to 120	.....	.....	.....	.....	0.0505	2.38	0.1130	2.78	0.1900	2.77
121 to 130	.....	.....	.....	.....	0.0506	1.90	0.1412	2.65	0.1763	2.03
131 to 140	.....	.....	.....	.....	0.0661	1.68	0.1534	2.25	0.2018	1.91
141 to 150	.....	.....	.....	.....	0.0661	1.41	0.1271	1.55	.....	.....
151 to 160	.....	.....	.....	.....	0.0537	1.13	0.1278	1.35	.....	.....
161 to 170	.....	.....	.....	.....	0.0469	1.11	0.1502	1.46	.....	.....
171 to 180	.....	.....	.....	.....	0.0763	1.41	.....	.....	.....	.....
181 to 190	.....	.....	.....	.....	0.0835	1.34	.....	.....	.....	.....
191 to 200	.....	.....	.....	.....	0.1054	1.47	.....	.....	.....	.....
201 to 210	.....	.....	.....	.....	0.0774	0.97	.....	.....	.....	.....
211 to 220	.....	.....	.....	.....	0.0791	0.89	.....	.....	.....	.....
221 to 230	.....	.....	.....	.....	0.0690	0.72	.....	.....	.....	.....

FOREST AREAS AND YIELD.

Latest statistics place the total area of woodland in all Switzerland at 785,374 hectares, or 1,940,659 square acres, which is about 19 per cent. of the entire area of the country. Of this, two-thirds consists in townships and corporations forests, and seven-eighths of the remainder is private property, and one-eighth the property of the cantons. The average annual yield is estimated at about four dollars ($4.16) to the

square acre from all sources; the total yield being approximately estimated as follows:

Description.	Cubic meters.	Francs.
Firewood	1,673,400	15,478,950
Lumber	1,115,600	17,849,600
Pasturage, bark, leaves, berries, &c. (estimated)	.....	6,671,450
Total yield	.....	40,000 000

The percentage of yield appears, however, to be considerably higher in the Government forests than it is in the others, indicating their superior cultivation. For instance, the yield of wood per hectare (2.4 square acres) in private forests averages only 3.37 cubic meters, and in the township and corporation forests 3.57 cubic meters, while the Government forests yield an average of 4.75 cubic meters per hectare, annually, of the total yield of wood in all Switzerland.

	Cubic meters.
Private forests furnish	774,000
Township and corporation forests furnish	1,859,000
Government (in canton) forests furnish	156,000
Total	2,789,000

As showing at a glance the present state of Swiss forestry, I subjoin the following:

Table showing amount and distribution of forest areas by cantons, and their annual yield in kind and value.

Cantons.	Total forest area, in hectares.	Percentage of total area of the canton.	Percentage of forests, area belonging to—			Annual yield per hectare, in cubic meters, wood.	Percentage of yield in—		Total value of wood yield per annum, in francs.	Annual yield per hectare, in francs.
			Canton.	Townships and corporations.	Private owners.		Lumber.	Firewood.		
Aargau	43,238	30.80	7.09	78.07	14.84	6.30	30	70	3,236,559	74.65
Appenzell, A. R	4,838	19.98	1.38	24.20	74.42	3.55	60	40	251,185	52.58
Appenzell, I. R	3,001	16.91	1.32	42.26	56.42	3.91	40	60	156,047	51.67
Baselland	14,604	34.64	0.10	74.00	25.90	3.74	30	70	846,811	58.00
Baselstadt	390	10.89	.....	42.56	57.44	4.00	20	80	26,520	68.00
Berne	143,780	20.87	7.68	53.84	38.48	3.65	25	75	5,000,975	34.65
Freiburg	27,751	16.63	7.63	47.22	45.15	3.52	60	40	1,328,244	47.87
Geneva	2,145	7.08	.....	11.89	88.11	4.00	25	75	203,000	70.00
Glarus	12,384	17.92		98.00	2.00	3.00	60	40	458,254	36.60
Graubunden	96,995	13.59	0.21	90.82	8.97	2.25	33	67	2,322,052	23.94
Lucerne	30,060	20.03	0.89	16.83	82.28	4.39	45	55	1,806,583	59.72
Neuenberg	22,549	27.91	7.86	46.42	45.72	4.16	60	40	845,179	50.71
Nidwalden	6,925	23.84	1.80	76.54	21.66	3.46	50	50	350,850	51.96
Obwalden	12,195	25.68	0.12	92.46	7.42	3.18	40	60	392,670	31.84
St. Galle	36,310	17.98	2.11	61.04	36.85	3.53	60	40	1,600,790	45.99
Schaffhausen	11,230	38.17	16.70	70.07	13.23	4.45	20	80	719,813	64.19
Schwyz	16,000	17.61		84.38	15.62	2.92	50	50	649,090	37.91
Solothurn	28,856	36.42	2.97	74.40	22.63	3.79	50	50	1,900,712	66.28
Tessin	55,725	19.77	.....	88.50	11.50	2.24	20	80	548,748	9.85
Thurgau	18,096	18.32	6.43	29.57	64.00	4.52	35	65	1,210,560	66.97
Uri	10,855	10.09	.....	88.95	11.05	1.23	34	66	134,230	12.75
Waadt	73,020	22.66	10.47	59.19	30.34	3.75	62	38	3,384,002	46.36
Wallis	63,000	12.00		87.30	12.70	3.18	60	40	1,400,700	22.24
Zurich	48,177	22.29	5.08	51.18	43.74	4.70	33	67	4,165,358	84.60
Zug	3,250	13.59		83.08	16.92	4.04	60	40	204,928	63.21
Total	785,374	18.99	4.20	66.23	29.57	3.57	40	60	33,178,758	42.43

THE YIELD IN CANTON ZURICH.

In this canton, however, owing to its perfected system of forestry, the average annual yield per hectare of woodland (excepting in the private forests) is much higher than that given above for all Switzerland, as for instance:

Average annual yield per hectare in—	All Switzerland.	Canton Zurich.
	Cubic meters.	*Cubic meters.*
Cantonal forests	4.75	6.4
Township and corporation forests	3.57	5.7
Private forests	3.37	3.9

The low average of yield in the Zurich private forests is ascribable to a lack of proper care, and also to the great extremes existing in the ages of the trees therein, many of them being very old and many others very young. The total wood yield of the forests, &c., of canton Zurich is estimated as follows, viz:

	Cubic meters.
From the cantonal forests	12,191
From the township and corporation forests	109,507
From the private forests	109,777
From orchards, vineyards, &c	21,045
Total	252,520

RAPID INCREASE OF YIELD.

As showing the nearly threefold increase of profit yielded, in francs, per hectare, by the Zurich cantonal forests during a period of fifty years of cultivation, I quote the following table:

Decade.	Gross yield per hectare.	Outlay per hectare.	Net yield per hectare.	Capital value.
	Francs.	*Francs.*	*Francs.*	*Francs.*
1830 to 1840	42.20	10.92	31.28	782.00
1840 to 1850	45.35	13.18	32.17	804.00
1850 to 1860	59.60	13.24	46.36	1,159.00
1860 to 1870	91.77	16.72	75.05	1,876.00
1870 to 1878	114.90	24.32	90.58	2,264.00

COST OF WORKING AND MAINTENANCE.

According to the reports for 1885 of the management of the forestry system belonging to the city of Zurich proper (which comes under the class known as township forests), the receipts fell short of the estimates by 4,233.20 francs, on a total estimate of 85,300 francs.

The following statement is of interest as showing in connection with receipts and expenditures whence such deficiency arises.

Items.	Excess.	Deficiency.
RECEIPTS.	*Francs.*	*Francs.*
From forest yield	.....	4,801.25
From kindred uses	2,101.70	.....
From wood depot, Zurich	1,897.50	.....
From miscellaneous sources	.....	74.55
Total	3,999.20	4,875.80
OUTLAYS.		
For management	.....	60.42
For taxes and insurance	274.95	.....
For costs of profits	2,047.03	.....
For costs of cultivation	.....	1,121.35
For costs of construction	1,752.87	.....
For furnishing and stock	593.22	.....
For various causes	.....	130.60
Totals	4,668.97	1,312.37

	Francs.
Total deficiency in receipts	876.60
Total excess in outlays	3,356.60
Aggregate deficiency	4,233.20

This deficiency, however, does not necessarily prove that the forests are not run at a profit. They simply show that in any given year unforeseen circumstances may prove the estimates formerly made to have been made a trifle too low or too high. That the forests of the city (or township) of Zurich are indeed run at a handsome profit is shown by the following statement of accounts or balance-sheet taken from last year's report. It should be observed that the account is divided into two heads, one covering the wrought and the other the natural products of the forest. The statement covers an area of 2,760 square acres of woodland.

From or for.	Receipts.	Outlays.	Net profit.
WROUGHT PRODUCTS.	*Francs.*	*Francs.*	*Francs.*
Pounds of wrought materials	143,100.18	.....	.....
Value of stock brought forward	94,746.00	.....	.....
Profits of impregnating establishment, Adlisberg	5,255.75	.....	.....
Profits of wood depot, Zurich	4,897.50	.....	.....
Machine earnings	3,041.70	.....	.....
Costs of management	.....	5,800.00	.....
Costs of transportation and working	.....	45,329.46	.....
Costs of construction	.....	1,713.57	.....
Costs of taking inventory	.....	2,593.22	.....
Costs of obtaining raw materials	.....	173,377.45	.....
Total	250,541.13	228,813.70	21,727.43
FOREST PRODUCTS.			
Value of materials disposed of	124,030.02	.....	.....
Value of kindred uses (pasturage, &c.)	5,229.70	.....	.....
Costs of management	.....	15,739.58	.....
Taxes and insurance	.....	7,174.95	.....
Wood-chopping and transportation	.....	28,718.47	.....
Costs of cultivation	.....	2,178.65	.....
Costs of construction (roads, &c.)	.....	16,039.30	.....
Miscellaneous	.....	69.40	.....
Total	129,259.72	69,920.35	59,339.37
Total for 1885			81,066.80
Total for 1884			82,751.59
Total for 1883			87,262.46

SOURCES OF WOOD AND LUMBER SUPPLY.

Professor Landolt, who has already been quoted, estimates that in the 607,725 households, forming, according to the last census, the population of Switzerland, there are annually consumed 3,646,350 cubic meters of wood, or 6 cubic meters per household. Now, the total product of wood of all kinds useful for firewood, including vine-cuttings, orchard branches, and every other available material, do not possibly exceed 3,000,000 cubic meters, leaving a deficiency of 646,350, which can only be supplied by import. This deficiency does not include, moreover, all the firewood consumed in factories, shops, and public buildings, of which no reliable estimate can, however, be made here. In regard to lumber the tables are reversed, the exports largely exceeding the imports, and consisting largely in enormous shipments of rough pine planks to France

EXPORTS.

[In francs.]

Kind.	To Germany.	To Austria.	To France.	To Italy.	Elsewhere.	Total.
Raw lumber	728, 881	7, 087	4, 706, 534	515, 092	10, 272	5, 967, 886
Firewood	31, 345	539	124, 943	369, 908	.....	526, 735
Ebony wood	5, 830	67	2, 306	698	2, 180	11, 081
Other woods	76, 031	10, 513	34, 466	280, 086	199, 228	600, 324
Total	842, 087	18, 206	4, 868, 289	1, 165, 784	201, 680	7, 106, 026

IMPORTS.

[In francs.]

Kind.	From Germany.	From Austria.	From France.	From Italy.	From elsewhere.	Total.
Raw lumber	2, 001, 629	918, 575	267, 848	35, 664	2, 520	3, 226, 236
Firewood	2, 192, 600	96, 892	65, 472	59, 410	.....	2, 414, 375
Ebony wood	56, 930	4, 595	70, 425	1, 370	94, 420	227, 750
Other woods	573, 543	25, 010	976, 043	69, 387	119, 986	1, 763, 869
Total	5, 424, 702	1, 045, 072	1, 379, 798	165, 781	216, 876	8, 232, 230

RATES OF SUPPLY AND DEMAND.

The annual consumption of wood per capita and per household of the population of the canton as compared with the natural supply of its forests furnishes, as illustrated by the following table, an interesting and instructive subject for study. It shows, so far as Zurich is concerned, that her well-kept forests are unable to supply not only all the needs of her population, but barely two-thirds of that need, a condition which unfortunately prevails in many other parts of Switzerland, where a wood famine is constantly threatened and only averted by constant economy and vigilance:

District.	Population.	Number of households.	Average per capita of household.	Consumption of wood, in cubic meters.		Yield of forests, in cubic meters.	Consumption as compared with supply, in cubic meters.	
				Per household.	Total.		More.	Less.
Zurich	92,878	18,639	4.9	5.42	100,964	22,731	78,231	.....
Affoltern	12,818	2,561	5.0	6.0	15,366	13,481	1,885	.....
Horgen	27,840	5,858	4.8	5.80	33,947	16,148	17,799	.....
Meilen	19,788	4,307	4.6	6.0	25,842	7,806	18,036	.....
Hinwoil	28,853	6,142	4.7	6.0	36,852	20,871	15,981	.....
Uster	17,293	3,667	4.7	6.0	22,002	12,687	9,315	.....
Pfäffikon	18,225	4,044	4.5	6.0	24,264	25,027	.....	763
Winterthur	38,318	8,054	4.8	5.81	46,787	40,670	6,117	.....
Andelfingen	17,527	3,634	4.8	6.0	21,804	23,183	.....	1,379
Bülach	20,682	4,184	4.9	6.0	25,104	27,518	.....	2,414
Dielsdorf	14,341	2,773	5.0	6.0	16,638	21,351	.....	4,713
Total	308,593	63,863	4.8	5.79	369,570	231,475	138,095	.....

PRIVATE FORESTS.

Allusion has been made above to the comparatively low yield of private forests in the Canton Zurich, and it was remarked that imperfect care and cultivation were the principal cause. The cause in turn of this imperfect care and cultivation appears to lie in the fact that the so-called "private forests" consist in this canton alone of no less than 70,000 distinct small patches of woodland, some of them less than half a square acre in dimensions, and at most not over 80 acres. This easily accounts for the lack of systematic cultivation, as contrasted with that applied to the cantonal, township, and corporation forests. The following table shows the distribution of the private forests in the canton by districts:

District.	Total area of private forests.	Number of pieces of private forests.	Largest.	Smallest.	Average.	Number of owners.	Average owned by each owner.
	Hectares.		*Hectares.*	*Hectares.*	*Hectares.*		*Hectares.*
Zurich	1,430	4,170	38.00	0.01	0.34	1,299	1.10
Affaltern	1,409	3,848	7.20	0.003	0.37	1,126	1.25
Horgen	1,004	1,704	17.5	0.01	0.59	1,153	0.87
Meilen	1,310	2,441	8.28	0.01	0.54	1,392	0.94
Hinweil	4,650	6,986	36.00	0.01	0.67	2,940	1.58
Uster	2,026	5,085	10.08	0.02	0.40	2,381	0.85
Pfäffikon	4,720	10,874	16.00	0.01	0.43	3,115	1.51
Winterthur	5,090	11,740	18.3	0.02	0.43	2,850	1.79
Andelfigen	1,908	7,410	7.56	0.02	0.26	2,258	0.85
Bülach	2,362	7,726	20.00	0.01	0.31	2,414	0.98
Dielsdorf	2,223	8,458	8.64	0.02	0.26	2,281	0.98
Total	28,132	70,442	38.00	0.01	0.40	23,189	1.21

TOOLS USED IN CULTIVATION.

As best illustrating the character of the tools and implements in use in the Swiss forestry service, I quote from Professor Landolt's interesting report on the forestry department of the Swiss National Exposition of 1883. He says:

Among tree-chopping implements the polished, well-wrought axes of the pontoniers especially pleased the eye. In the hands of a lusty wood-chopper, well used to handling them, they unquestionably possess an advantage over the ordinary ax, yet on this side of the Alps workmen find it difficult to become accustomed to them. In Jura a good felling ax is in use, and one which is constantly growing in favor, and the more so for the reason that there are unfortunately so many other defectively constructed kinds in use. From present appearance, American axes are destined to come more in use, as they possess manifold advantages over ours, both in shape and material. It is still a question whether the American two-man saws, with the new system of teeth, are preferable to the Steyer bow-saws, with straight teeth, which are in ordinary use here. At all events they present a good appearance. There was almost a total absence of the old-fashioned frame hand-saws with reversible blade, notwithstanding they possess a decided advantage over those with fixed blades. The hand-saws which work forward and back deserve special notice, for the reason that in skillful hands they materially advance the work, but care should be taken not to make the frames too heavy.

Among the many pruning-saws for cutting away withered boughs we must give preference over all others to the simplest and cheapest kind, which is made out of the forward part of a good, old-fashioned scythe. Those fastened to poles, whether long or short, we cannot, on trial, recommend. If the pole be short, it is of little use; if long, it is uncertain for cutting. A light ladder of moderate length renders better service. Still less advisable, especially with coniferous trees, is the employment of iron bars. Among wedges, the split-wedge, which is quite unknown in many localities, merits special mention. For turning and sharpening heavy tree-trunks in the hill lands the turning-ring, the grip (goose-foot), and the "S" hook are still too little in use. For transporting timber down steep declivities tackle might be used more frequently—that is, in cases where there is a growth of young branches.

Among the implements of culture there are many which can find only a limited use, and the employment of which does not pay in every case. Good shovels and picks of good steel, not too heavy, single and double hoes (pick and bush hoes), and iron rakes are the most necessary and serviceable implements. Spades and picks of American make are to be highly recommended. Hewers and rakes are best chosen according to the forms in use in the several localities, provided, of course, they meet the requirements of cheapness.

By using the implements above mentioned, the forest-owner has the advantage of not being obliged to provide a heavy stock of tools, as many workmen bring their own with them. In this connection the other implements of cultures, such as are used in transplanting the smaller kinds of plants, should not be regarded as useless; there are times when they can render good service, and then is the time to employ them. In our larger plant-gardens the furrow-plow is highly valued as forwarding and lightening labor.

The instruments for making forest surveys displayed great variety, although the work required of them is very simple. In this line invention is so active that it is difficult to keep pace with it.

* * * * * *

TRANSPORT OF WOOD.

The question of transporting wood from the comparatively inaccessible higher mountain regions to the place of consumption enters as a leading factor into the problem of rendering the cultivation of forests in such regions at all profitable. Wherever roads, passable either by wagons or sleds, can be maintained no insuperable difficulty is encountered; but many forests are located at points entirely inaccessible by such methods, and the devising of means for getting out the wood produced there, at paying prices, offers a broad field for energy and ingenuity. A vehicle known as a "*schnegg*," half wagon, half sled, is used, even in summer, in sections where the descent is very steep. But from points which no vehicle can reach the wood is generally got out by

means of slides, made either of slats or of wire cables. This method is only resorted to when necessity compels, as, for instance, in getting timber over gorges, streams, narrow valleys, or rocky slopes. Of the two the wire cables are preferable, as standing more wear. Rafting is also resorted to whenever rendered practicable by the stage of water in the mountain streams, although it involves, as a rule, the loss of considerable wood, and occasionally much danger for the raftsman, as well as damage to the banks of the stream. Where the latter are rocky there is no great harm done, but where walled in with fascines rafting must be prohibited, and where with stone-work must be limited to small wood. The transportation of wood bound together in rafts (the above refers simply to single floating logs) will, wherever the depth of water and distance from the point of delivery permit, always remain the cheapest method of bringing it out from remote forests in the mountains.

PROTECTIVE CONSTRUCTIONS.

The topography of the country and the character of its water-courses render imperatively and generally necessary in Switzerland various constructions:

(*a*) For the prevention of land or snow slides.

(*b*) For the protection of the banks of streams.

The former consist simply in the establishment of palisade hedges, or the building of walls about 3 feet high, and of moderate length at the points threatened. These are so placed that each in turn covers the gap where the other ends, and when the immediate danger is over they can be moved nearer together or farther apart, as may be necessary. This method has hitherto proved very serviceable, while attended with comparatively trifling expense. The choice between hedges or stone walls depends upon which of the two materials can more easily be found at hand. Where there is no soft soil, and piles or stakes cannot consequently be driven, stone must, of course, be used, unless a simple terracing of the rocky slope will answer the purpose; on the other hand, where there is a lack of stone, while stakes are plentiful, palisades are, of course, to be preferred. To surveyors and foresters is intrusted the protection and oversight of the constructions, in the shape of fascines, osiers, &c., along the banks of the mountain streams.

DAMAGES BY FROSTS AND STORMS.

Against the devastation wrought in forests by the elements man stands comparatively powerless. On the 20th of February, 1879, a hurricane swept across France from the Bay of Biscay, and vented all its fury upon the forests of Switzerland, wrecking in a few hours the work of years, and involving a loss of 570,967 cubic meters of wood.

The detailed effects of this memorable tempest, as well as of two others occurring June 25 and December 5 of the same year, have been collected with admirable care and fidelity by the Federal forestry bureau and published in a pamphlet, which accompanies this report. Similar exhaustive details (also inclosed herewith) have been published concerning the damage wrought by frost in the severe winter of 1879–'80, and the late frost of May 19 and 20, 1880. Again, in 1885, as early as September 28, a snow-storm of unusual severity visited Zurich and the adjacent sections of Switzerland, and wrought damage which undid in the neighboring Lihlwald the careful labor of a century. The snow fell to a depth of nearly 3 inches upon the entire forest, and resulted in a

damage of about 2 cubic meters of wood to every square acre, or a total loss of 32,000 square meters. One observation resulting from this storm will prove of permanent value in forestry, namely, that where coniferous growth was largely intermingled with the leaf-bearing, there the damage of the storm met its fixed limit and was arrested. In a few cases branches were broken from the firs, larches, and pines, but not a single trunk among them was either split or broken, whereas among the leaf-bearing trees standing alone the devastation was complete.

ORGANIZATION OF THE FORESTRY SERVICE.

The control of the federal (protective) forests is vested in the central Government; that of all other forests in the governments of the cantons to which they respectively belong. The technical superintendence of Federal forests is vested in the chief inspectorate, which constitutes Division III of the federal department of commerce and agriculture. In Zurich and most other cantons (Baselland, Baselstadt, and Geneva excepted) the force is under control of an over-forestmaster, and in this canton (Zurich) he is assisted by four district forestmasters. There exists also in most of the cities and in some of the larger towns a township forestry force, mostly composed of men scientifically trained. At the commencement of 1886 there were employed in all Switzerland 151 trained forestry officials, and from 1,500 to 2,000 foresters and overseers. According to the latest census (1880) forest culture and its kindred pursuits furnish employment to 5,851, and support to 9,095 persons. The *personnel* of the federal and Zurich forestry officials at present is as follows:

Federal.—Johann Coaz, federal over-inspector of forests, Berne; Franz Fankhauser, jr., federal forest adjunct, Berne; Elias Landolt, Jacob Kopp, and Dr. Anton Bühler, polytechnic professors of the science of forestry, Zurich.

Cantonal.—Jacob Ruedi, over-forestmaster, Regensburg; Gottfried Reinacker, forest adjunct, Zurich; Gottlieb Kramer, forest master first district, Zurich; Heinrich Keller, forestmaster, second district, Veltheims; Werner Wirz, forestmaster third district, Winterthur; Adolph Orelli, forestmaster fourth district, Bülach.

Township.—Ulrich Meister, forestmaster, Zurich; Kaspar Weinmann, forestmaster, Winterthur; Albert Brufpacher, forestry assistant, Winterthur; Heinrich Spiller, overforester, Elgg.

Board of examiners of forestry officials.—The over-forestmaster, president *ex-officio*, Prof. Elias Landolt, Fluntern; Dr. Schröter, Fluntern; Professor Wild, Zurich; Professor Schulze, Hottingen.

The subdivision of the canton into four forestry districts, as provided in Article 3 of the laws above given, is as follows:

First district.—Zurich (excepting Oerlikon and Seebach), Affoltern, Horgen, Meilen, and that part of Uster which includes the corporation and town forests of Dübendorf, Fällenden, Maur, and Egg. Forest area, 7,342 hectares. Total area, 55,400 hectares.

Second district.—Uster (excepting the above named townships and the corporation Brutisellen), Hinsoell, Pfäffikon (excepting Kyburg, Hittnau, Winterberg, Ryken, Tagelswangen, and Lindau), and that part of Winterthur which includes the townships Turbenthal, Zell, and Schlatt. Forest area, 7,687 hectares. Total area, 42,120 hectares.

Third district.—That part of Pfäffikon which includes the township of Kyburg and the corporation of Ottikon, Winterthur (excepting Pfungen, Wülflingen, Töss, Brütten, Zell, Schlatt, and Turbenthal), and Andelfingen. Forest area, 6,718 hectares. Total area, 36,720 hectares.

Fourth district.—That part of Uster which includes the corporation of Brutisellen; of Pfaffikon which includes the corporation of Lindau, Tagelswangen, Rykon, and Winterberg; of Winterthur, which includes the townships of Brütten, Töss, Wülflingen, and Pfungen; Bülach, Diesdorf, and that part of Zurich which includes the corporations of Leebach, Oerlikon. Forest area, 7,276 hectares. Total area, 38,160 hectares

I send with this report a set of pamphlets containing the series of inspections officially issued to the various grades of forestry offices, and by which they are to be guided in the discharge of their various duties. As supplementary to the law above given, a study of these will well repay any commission desirous of organizing a practical forestry system.

INSTRUCTION IN FORESTRY.

The course of instruction in forestry at the federal Polytechnic School in this city covers three years, the central Government paying the expenses of the instructors engaged in the courses of training for subordinate employés for federal forest territory, and in the finishing courses. The former generally lasts for two months (in two terms, spring and fall), the latter from eight to twenty-four days. The following are the studies embraced in the courses, viz:

First year.—Mathematics (and exercises therein); experimental physics (with recitations); unorganic chemistry (with recitations); introduction to forestry science; excursions; general botany (with recitations); zoology (with general reference to animals useful or hurtful in agriculture and forest culture); map drawing.

Second year.—Instruction in forest climatic influences; agricultural chemistry, 1st division; map drawing; topography; roads and water-courses; general geology; pathology of plants; national economy (with recitations); microscopic practice; experiments in laboratory of agricultural chemistry; seminary exercises.

Third year.—Protection of forests, with applied zoology; forest formation; instruction in management of forests; excursions and experiments; general instruction in law; forest politics and police; history of forestry; geodetics; seminary exercise.

In addition to the above, during the summer semester, instruction is given in the following, viz: *First year*—organic chemistry; special botany; petrography; meterology; experiments in laboratory; microscopic experiments. *Second year*—field measurements; study of ground; preservation of various kinds of wood; forestry statistics; instructions in yield and increase of wood; instruction in law. *Third year*—statistics and calculation of value of forests; forestry legislation; use of forests, technology; and general knowledge of business.

Up to the beginning of this year (1886) there had been held fifteen training courses for under-foresters (attendance 360), two finishing courses for the same (attendance 38), and seven tree-tending courses (attendance 116), toward the expense of which the sum of 23,754 francs was contributed by the federal Government. In addition thereto it was resolved, March 27, 1885, to establish in conjunction with the Polytechnic Forestry School a central station for experiments in forestry matters, with a meteorological observatory attached, having as its object a system of thorough scientific experiments, examinations, and observations, to develop the subject of forestry to its fullest extent, to achieve for it a recognized footing as a science, and to assist as well in the solution of important meteorological questions connected therewith. It may also here be mentioned that private societies for the furtherance of similar objects exist quite generally throughout Switzerland. The oldest of these, the *Schweizerische Forstverein*, has been in existence since 1842, and has since 1850 published a periodical known as the "*Schweizerische Zeitschrift für Forstwesen.*"

DEALERS IN SEEDS AND PLANTS.

Where so active an interest is officially shown in all that pertains to the growth of trees and plants it is but natural that a correspondingly active commercial interest should exist. There are in this city a num-

ber of enterprising dealers in this line of products whose names and addresses I give herewith:

Name.	Residence.	Canton.
Dürr, Emil	Marktgasse, 15	Zurich.
Dürr & Co., Titus	Bahnhofstrasse, 104	Do.
Froebel & Co	Poststrasse, 3	Do.
Köchlin, A	Schiffländeplatz, 2	Do.
Müller-Kochlin	Ed. Storchengasse, 16	Do.
Traub, Benno	Beatengasse, 15	Do.

BOOKS ON FORESTRY FORWARDED HEREWITH.

As supplementary to or corroborative of the facts contained in this report, I have collected from various official and other sources a number of works bearing on the details of Swiss forestry service, and forward the same herewith, as being of great value for reference in the framing of a forestry system in our own country. These works are as follows:

(1) Dienst-Instruktionen für den Oberforstmeister des Kantons Zürich.
(2) Dienst-Instruktionen für die Förster über die Staats-Waldungen des Kantons Zürich.
(3) Dienst-Instruktionen für die Gemeinde- und Genossenschafts-Förster des Kantons Zürich.
(4) Kanton Zürich. Forstgesetze.
(5) Vollziehungs-Verordnung zum eidg. und kant. Forstgesetz, vom 26. April 1879.
(6) Forst-Statistik des Kantons Zürich.
(7) Bericht des eidg. Handels- und Landwirthschafts-Departements über seine Geschäftsführung im Jahr 1885.
(8) Die Stürme vom 25. Februar, 25. Juni und 5. Dezember 1879, &c.
(9) Etat der schweizerischen Forstbeamten, &c.
(10) Mittheilungen der Anstalt zur Prüfung von Baumaterialien am eidg. Polytechnikum in Zürich.
(11) Die Lauinen der Schweizer Alpen, von J. Coaz, eidg. Ober-Forst-Inspektor.
(12) Der Frost-Schaden des Winters 1879–'80, &c.
(13) Instruktion für die Detailvermessung der Waldungen, &c.
(14) Programm der eidg. polytechnischen Schule in Zürich, für das Schuljahr 1886–'87.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Zurich, December 27, 1886.

SWISS FEDERAL FORESTRY LAW.

[Adopted March 24, 1876.]

I.—*Federal supervision.*

ARTICLE 1. The federal Union shall have supervision of the forestry service in the Swiss mountain districts.

ART. 2. This supervision embraces (1) all the territory embraced in the Cantons of Uri, Schwyz, Unterwalden, Glarus, Appenzell, Graubünden, Tessin, and Valais, and (2) the mountainous sections of the territory of the Cantons of Zurich, Berne, Lucerne, Zug, Freiburg, St. Galle, and Waadt. The boundary lines determining what mountainous sections of the last-mentioned cantons are to be subject to federal supervision shall be established by the national council jointly with the several cantonal governments. In cases of failure to agree as to forestry lines, the federal Assembly shall decide.

ART. 3. All protective forests, as well as cantonal, township, and corporation forests (even when not classed as protective forests), within the federal forest territory come

under the control of the federal Union. To private forests, when not classed as protective ones, the provisions of Articles 11, 14 (Lemma 2, 3, 4), 15, 20, and 27 (Nos. 2, 4, 8, and 9) are alone applicable.

ART. 4. Under the term "protective forests" are to be understood those which by reason of the great altitude of their location, or of their situation on steep mountain shelves, rising grounds, ridges, and projections in marshy tracts or narrow passes, or crusted earth, or the banks of brooks or rivers, or owing to a deficiency of woodland, serve as a protection against injurious climatic influences, and damage by winds, avalanches, falls of rock or ice, land-slides, wash-outs, or inundations.

ART. 5. Within a limit of two years the protective forests are to be set off from the other forests by the cantons. Such separation, when made, is subject to examination and approval by the national council.

ART. 6. The several cantons shall issue the necessary decrees and ordinances for carrying out the present law, and transmit the same to the national council for examination and approval. The latter shall superintend their execution, appointing for that purpose an inspector of forests and providing him with the requisite number of assistants.

II.—*Classification of forests and forestry officials.*

ART. 7. The cantons and parts of cantons embraced in the federal forestry system are to be districted by the cantonal governments according to the requirements of the organization of their several forestry systems

ART. 8. For the maintenance and administration of the forestry law, the cantons shall employ and pay the requisite number of trained foresters.

ART. 9. It shall be incumbent upon the cantons to train subordinate forestry officials by holding councils of instruction.

III.—*Regulations concerning the maintenance of forests and rights of ownership therein.*

ART. 10. Within a period not to exceed five years all forests subject to federal supervision shall be marked out. In a case where forests adjoin, the marking of the outer boundary line of the forestry district to which they belong will suffice.

ART. 11. Within the established limits no diminution of forest area is permissible without the consent of the canton, and in future barrens and clearings shall be replanted where no equivalent area of other land is turned over for tree-planting. The digging out of roots is prohibited, (*a*) in protective forests, (*b*) when it imperils the welfare of protective forests. Exceptions to this rule can only be allowed by special consent of the national council.

ART. 12. There shall be no distribution of cantonal, township, or corporation forests, either for purposes of usufruct or ownership, save in extraordinary cases, and in such the decision shall be vested in the cantonal government.

ART. 13. Township and corporation forests shall only be sold with the consent of the cantonal governments.

ART. 14. Wherever rights of pasturage, leaf-gathering, or otherwise pertain to protective forests, the same are to be dissolved wherever incompatible with the purposes for which the forests serve. This provision shall be carried into effect within a period not exceeding ten years. Wood-cutting rights in forests subject to federal supervision can be dissolved by the owners of the land. Indemnification may be made either in money, or, when that, under existing circumstances, is impracticable, by the transfer of an equivalent area of land. The manner of dissolving the rights above mentioned, and the legal steps to be taken in regard thereto, shall be determined by cantonal legislation. It is forbidden to contract any new rights of the character mentioned.

ART. 15. All business rights conflicting with Articles 11, 12, 13, and 14 are null and void.

IV.—*Forestry regulations.—New inclosures.*

ART. 16. All Government, township, and corporation forests shall be surveyed, their management regulated, and plans for their cultivation introduced. The fixed tributes imposed on a basis of the deficiency in yield shall not be exceeded. Whenever, owing to extraordinary circumstances or in consequence of unauthorized use, the deficiency in yield proves excessive, such abnormal lack in wood-supply must be made up in subsequent years.

ART. 17. For forests in which at first no definite plan of cultivation can be introduced, there shall be fixed, during the first five years during which the present law is in force, a yearly estimate of yield by means of temporary cultivation, and measures shall be taken for the use, replanting, and care of the same.

ART. 18. The regulating of the use of wood from private forests pertains to the several cantons, subject to the provisions of this law.

ART. 19. It shall be the duty of the cantonal governments to adopt all measures of cultivation and safety necessary to maintain the protective forests (Art. 3), and to insure the object for which they are established.

ART. 20. In these forests the usual pursuits kindred to forest culture, viz, the pasturage of cattle and the gathering of leaves, are to be kept within certain limits, or, at times, suspended or entirely discontinued. The full or conditional following of these pursuits shall be regulated in accordance with the requirements of proper cultivation.

ART. 21. Tracts of land, through the planting of which protective forests of any considerable value can be obtained, shall be so planted upon the demand of either the cantonal government or the federal council. Of the expense of the first planting and of the subsequent improvements, which, within the first four years after the setting off of the forest, shall, in the opinion of the national council and without fault of the owner of the forest, become necessary, a share shall be borne by the canton and by the federal Government.

ART. 22. In case the land to be planted belongs to a private individual, the canton is entitled, and, if the owner request it, obliged to demand a transfer of the same, with payment of full indemnification, under the provisions of the national law pertaining to obligations connected with the transfer of private rights, dated May 1, 1850.

V.—*Contributions by the National Government.*

ART. 23. The National Government shall contribute to maintaining the courses of instruction provided for in Article 9, and shall arrange jointly with the cantonal authorities for the establishment of the same.

ART. 24. The National Government shall further contribute to (1) new forests (Articles 21 and 22), (2) planting of trees in protective forests (Article 4) in so far as the same are (*a*) of great importance as a means of protection against danger to land, and more especially when in connection with protective constructions (*Verbauungen*), and (*b*) when effected under great difficulties.

ART. 25. The national council fixes the amount to be contributed with regard to the budget, and within maximum and minimum limits, as follows, viz:

(1) For the establishment of new forests (Article 24, Figs. 1 and 2), from 30 to 70 per cent. on the actual cost.

(2) For the planting provided for under Fig. 2 of the same article, from 20 to 50 per cent.

These amounts, however, will be paid over to the cantons only for new inclosures of protective forests, according to Article 24, Fig. 1. The contributions are not to be paid over to the cantonal government by the national council until the latter is assured by a report from the federal inspector of forests that the work has been performed as described, and correctly charged for.

ART. 26. With reference to contributions, the cantonal government assumes an obligation to the National Government to protect and care for the new plantings and to provide for subsequent improvements.

REPORT ON FOREST CULTURE AND FOREST PRESERVATIONS IN CANTONS OF ST. GALLE, APPENZELL, THURGOVIE, AND GRISONS.

REPORT OF CONSUL STAUB.

There are three kinds of forest laws existing in this country, as will be shown in this copy, viz, federal, state, and district, all of which cover in substance the same ground, while each of them differs somewhat from the others, according to the requirement of their respective localities. However, all are subordinate to the federal authority.

The statement which will follow next shows that these cantons differ widely in regard to the ownership of forest land. In some cantons the private interest is largest, while in others the communes and districts own the most. The states, as an average, have either very small or no claims at all, while the federal Government has no forest land of its own.

Forest areas.

States (cantons).	Number of acres of the entire surface.	Percentage in forests.	Number of acres of forest.	Percentage of forests belonging—		
				To the state.	To the communes.	To privates.
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Per cent.*	*Per cent.*
St. Galle	561,600	16.4	92,100	2.7	59.8	37.5
Appenzell	115,500	13.5	16,000	.....	8.	92.
Thurgovie	274,000	18.3	50,300	4.5	34.4	61.1
Grisons	1,943,600	17.0	330,600	.....	95.	5.

The lumber trade in this part of the country is of little importance both in regard to exportation and importation; the duty on rough timber and firewood imported is very small, almost nominal, while sawed lumber per car (20,000 pounds) pays 40 francs ($7.60).

The largest house in this consular district dealing exclusively in forest seeds is in Zernetz, Canton Grisons, but the most of such seed is furnished by Tenewein at Innsbruck (Austria) and Keller at Darmstadt (Germany), and others. Cantons and communes are compelled by law to keep their own nurseries.

PETER STAUB,
Consul.

UNITED STATES CONSULATE,
St. Galle, Switzerland, December 31, 1886.

[NOTE BY THE DEPARTMENT.—The law transmitted by Consul Staub is essentially that printed in Consul Catlin's report.]

IMPORTANCE OF THE ISLAND OF FORMOSA IN OUR TRADE WITH CHINA.

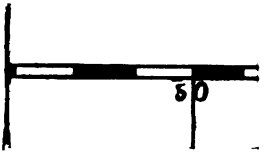
REPORT OF MINISTER DENBY.

The steady growth of the foreign trade of Formosa and the great military importance of the island, forming, as it does, to use the words of a recent memorial to the throne, "a portal to the Southern China Sea and a bulwark for seven provinces," authorize me to call your attention to the present condition of the island and its importance in our trade with China.

Although having nominally possession of Formosa since the latter part of the seventeenth century, the Chinese have only been able to establish their rule along the coast, the interior of the island being still inhabited by independent tribes of aborigines who live chiefly by hunting, and who have ever shown unconquerable aversion to the Chinese.

In their fondness for head hunting they resemble the Dayaks of Borneo, and we learn from a recent memorial of the military administrator in Formosa that the murders committed by them number over a thousand yearly.

Notwithstanding the animosity of the natives and the inability of the authorities to afford adequate protection to persons and property, the natural resources of Formosa and the wonderful fertility of its soil have for years past caused a stream of emigration to flow thither from the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provinces on the mainland, and day by day the area of cultivation is spreading and the natural products becoming better known and more thoroughly worked.

The present military administrator in Formosa, Lin-Ming-Chuan, whose energetic defense against the French, in 1884–'85 called forth the admiration of China, appears to be doing much in the way of establishing order and developing the resources of the island.

Memorializing the throne under date of July 20 last, he states that he has been able this year to bring into subjection over 400 villages, that over 70,000 people have embraced civilization, and that over 20,000 acres of land earlier brought under cultivation, but since abandoned, have been reclaimed.

The defenses of Formosa have also attracted the serious attention of the military administrator, and the ports on the west and north coasts, the only ones accessible, as well as the Pescadore Islands, are being fortified and armed with the most approved type of Krupp and Armstrong guns. It is also intended to establish telegraph lines and to connect the island with the mainland by a submarine cable. A short railway will in all probability be constructed between Kelung and Tamsui, and the name of an American firm, well known in China, is mentioned in connection with this last undertaking.

Heretofore Formosa has been an integral part of the province of Fuhkien, but on the 16th of January, of this year, there appeared a decree ordering it to be constituted a separate province, but, joined to Fuhkien and the Pescadore Islands, made the headquarters of the general of the Haitan division.

CAMPHOR.

Of the natural products of Formosa, camphor and coal may be regarded as the most valuable. The production of camphor is, however, so rapidly decreasing, that its extinction may be looked for in the near future, unless the forests of this valuable tree which exist in the interior of the island are made accessible.

In 1880 the exports of camphor through the foreign custom-house in Formosa were 12,335 piculs.* In 1883 it had fallen to 3,086.24 piculs, and in 1885 to 461.98.

COAL.

Tamsui and Kelung in the north of the island have the only coal-beds now worked, but, according to Chinese statements, "coal-mining in Northern Formosa has never paid, owing to the want of competent men to manage the matter." Other reasons accounting for the want of success in the past, and for the impracticability of working these mines to any great extent in the future, have been given by competent European authorities, but it is useless to our purpose to mention them here. The output of the mines of Tamsui and Kelung may be grossly estimated as something over 100,000 tons annually, and the expenses of working them are officially given at between 4,000 and 5,000 taels per month.

Petroleum oil has been found near Tamsui and Fakow, but, although it is used on a small scale by the Chinese, both medicinally and for lighting purposes, attempts made to work it on a large scale according to foreign methods have so far failed.

*1 picul=133⅓ pounds avoirdupois.

Sulphur is abundant in the island, and is found in nearly a pure state near Kelung. It might give rise to an important export trade were the restrictions imposed on working it removed. All these questions have, however, been already reported to the Department in 1869 (see Commercial Relations, 1869, pp. 85, *et seq.*), since which time nothing new has occurred to necessitate any further remarks.

The net value of the trade of Tamsui and Fakow, the two chief ports of Formosa, as reported by the Chinese maritime customs, which was 5,587,469 taels, in 1877, grew to 6,977,936 taels in 1885, and even reached the sum of 8,200,118 taels in 1881.

The chief articles of export to foreign countries from Formosa are tea and sugar. The increase in the production of tea is wonderful. Whereas in 1865 the total export of black tea (Oolong) from Formosa was but 1,359.57 piculs, it had reached in 1885 the enormous figure of 122,760.31 piculs. Assuming that all the Oolong tea re-exported from Amoy to the United States is from Formosa, and it is believed that this assumption is only subject to a very slight correction, we find that 50,922.40$\frac{3}{4}$ piculs were shipped there in 1877; 80,053.89 in 1883, and 99,649.89 in 1885, the total re-export to all foreign countries of this quality of tea from the port of Amoy during the same year being 120,722.38 piculs.

The exportation of Formosan sugar, although very important, does not show as marked and rapid an increase as that of tea. Thus we find that in 1878 413,684 piculs of brown and white sugar were exported through the foreign customs; in 1880 the exports reached 1,064,146 piculs; in 1884, 967,028 piculs; and in 1885, 558,980 piculs.

These figures do not account for what is exported by junks.

The greater part of the sugar from Formosa is consumed by Japan and Australia. The United States took 28,953 piculs of brown sugar in 1872, 130,431 in 1880, 55,166 in 1883, and 37,000 in 1884. It is highly probable that the United States will never become a large consumer of Formosan sugar, as it cannot compete with that supplied by the Hawaiian Islands. The sugar industry of Formosa may also receive a severe blow if the Japanese are able to carry out their plan of cultivating sugar-cane in the Loo-Choo Islands, a scheme which is being agitated at present in Japan.

The import trade of Formosa is of much less intrinsical value than the export trade, and the United States do not take a prominent place in it. The articles of import from foreign countries, consisting principally in opium, cotton, and woolen goods, represented in 1875 a value of 1,149,797 taels; in 1880, 1,982,564 taels; and in 1885, 1,860,209 taels, at the ports of Tamsui and Kelung. With greater security given the people, and consequently a larger area under cultivation and with other general improvements which may be confidently looked for in the administration of Formosa in the near future, the Chinese population of Formosa must rapidly increase and the consumption of foreign goods become much greater than at present. The ordinary staple American goods used in China generally are also those which are taken by Formosa, but it is not possible to give the value of our trade in these articles with the island.

Petroleum is largely imported into Formosa in junks which, not passing through the foreign customs, furnish us with no returns; nevertheless we find that, whereas in 1881 only 3,490 gallons of kerosene were imported to Tamsui in foreign bottoms, 34,900 gallons were imported in 1884, and that at Fakow 81,120 gallons were imported in 1881, 104,600 in 1882, and 144,650 in 1885.

Great Britain is the only treaty power which has consulates in Formosa, our trade with the island being nearly entirely carried on through Amoy. Should our trade with Formosa continue to increase, as there is every prospect that it will, it will perhaps be found advantageous to ship directly to the United States, instead of reshipping from Amoy as at present. But I am not at present sufficiently informed of the character and condition of the harbors to be able to state definitely what sized ships can enter them.

CHARLES DENBY.

UNITED STATES LEGATION,
Peking, November 17, 1886.

CAMPHOR IN JAPAN.

REPORT OF CONSUL-GENERAL GREATHOUSE, OF KANAGAWA.

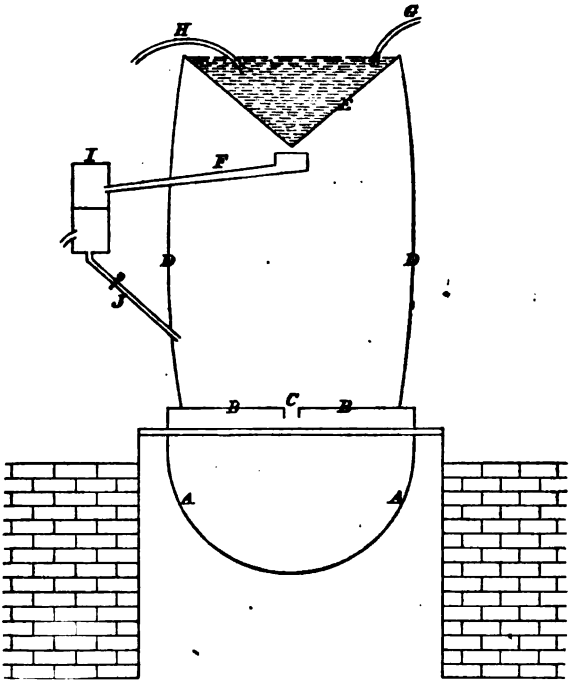
No camphor is produced in the vicinity of Kanagawa, and as I have never been, since at this port, more than 18 miles from it, I have been compelled to rely wholly upon the statements of others.

Mr. O. Keil, secretary of chamber of commerce, visited the camphor regions, and at my request made inquiries upon the subject. I am indebted to him for most of the facts and statistics herein given.

Camphor is exclusively produced in the southern part of Japan, almost all of it being from the islands which are embraced within the nine southern provinces known as Kiushiu. A camphor tree attains a large size and great age. It is frequently found over 12 feet in diameter and over 60 feet in height, and there are said to be some trees which have a known age of over two hundred years.

The extraction of camphor necessitates the destruction of the tree, which is cut down, and all of it that can be used for plank or ship timber is set aside for that purpose, camphor wood being highly prized for furniture and chests, the aroma of the wood being destructive to insects and a preventive against moths, which are very prevalent in this country. So much of the tree and roots as cannot be made available for these purposes is cut up into fine chips or shavings, and the camphor extracted. Several kinds of apparatus are used for this purpose, but the most improved and generally employed is shown by the drawing hereto annexed. There A represents a large iron kettle, covered with a wooden cover, B, which is luted down to the top of the kettle, and has an orifice, C, in the center. Over this is placed a wooden tub or barrel, D, and at the top of this tub there is an iron vessel, E, cone-shaped, the cone being inverted. The camphor chips are placed in water in the iron kettle, and the top C and the tub B, with inverted cone E, are put over the kettle and made, as nearly as possible, steam-tight. Fire is then kindled in the furnace under the kettle, and the water in the kettle boiled briskly. The steam, charged with camphor fumes, passes up through the orifice C into the tub, and is condensed on the iron cone at the top, which is kept full of cold water, water running in and out of it all the time through the pipes G and H. The camphor, camphor-oil, and steam are condensed on the cone, and run down the sides to the point, under which is placed a cup with a con-

ducting-pipe, F, which conveys the condensed water, camphor, and oil into a tank, I. Here the water settles in the bottom of the tank, and is drawn off and returned to the distilling apparatus through the pipe J.



The camphor oil and camphor are removed from the tank and the oil strained from the camphor. This oil is again distilled in an apparatus very much like the one described above, and more camphor obtained, and this process is repeated until all the camphor is extracted from the oil, these distillations of the oil being for the purpose of getting all the camphor that may be in it, and thus increasing the yield of camphor. Sometimes another form of apparatus is used, in which case the fumes or vapor from the boiled camphor-wood chips or shavings is passed under straw mats in such manner that the camphor and oil are condensed on the mats and afterwards scraped off.

These apparatus are reported as looking very crude to persons accustomed to neat and well-appointed American machinery; but the one I have described seems to me to be simple and well adapted to the extraction of camphor by the boiling process, which is the only process, so far as I could ascertain, known or practiced here. It is probable that improvements could be made in the process, and I think it would perhaps be advisable for some one interested to import into the United States camphor wood for experiments. This could be easily and at no great expense obtained at Nagasaki. All the work of cutting up the wood is done by hand, and this could no doubt be expedited and cheapened by machinery, which, by dividing the wood into finer particles, would necessarily make the extraction easier; but there is much prejudice here against any machinery which will do away with hand labor, and there would be some opposition to its introduction. I was informed

that but little if any camphor or oil is left in the wood after its treatment in the manner described.

The old camphor trees are much richer in camphor than the younger; wood from small and young trees gives but little returns, while very old trees are so heavily impregnated that frequently camphor exudes around their bases and can be scraped in small quantities from the living tree.

On an average 1,000 pounds of wood will produce about 30 pounds of crude material, which will make 18 pounds of camphor and 12 pounds of camphor oil.

The camphor is packed in wooden tubs weighing about 1 picul (133⅓ pounds) and transported to the sea-coast by coolies or on horses; when it reaches the treaty ports it is repacked for export in wood or tins, the latter being preferred.

I am informed that in the provinces named camphor trees are abundant and that there is no danger that the supply will be exhausted in the near future, but as the tree is of slow growth and as young trees do not produce much camphor, it is evident that in time the production may and probably will be greatly lessened. On the other hand several railroads are about to be constructed in these provinces, which will probably bring new producing districts into the market.

It was at one time the law and custom to plant a tree when one was cut down, but this has, I understand, fallen of late years into disuse.

The exportation of camphor has greatly increased since 1868. For example, in that year, from Kobe, only 983 piculs were exported, against 35,660 piculs in 1883. From the same port 25,200 piculs were exported in 1885.

It is impossible to ascertain the total amount of camphor produced in Japan, but it is certain that nearly all of it is exported. The official statistics furnished me are given in catties (a catty being a small fraction over 1⅓ pounds), and I append herewith table showing export of camphor for years 1881 to 1885, inclusive, and of camphor oil for 1884 and 1885.

The completed statistics for this year are not at hand, but they will not vary much from those of 1885.

I am indebted for statistics and facts in the above report to Messrs. Cocking & Co., who are largely engaging in camphor trade, and also to Mr. Gay, of Kelly, Walsh & Co., all merchants of Yokohama.

C. R. GREATHOUSE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Kanagawa, Japan, December 27, 1886.

Export of camphor and camphor oil from Japan.

Whither exported.	Camphor.					Camphor oil.	
	1881.	1882.	1883.	1884.	1885.	1884.	1885.
	Catties.	*Catties.*	*Catties.*	*Catties.*	*Catties.*	*Catties.*	*Catties.*
United States	746, 381	920, 380	1, 947, 998	1, 516, 749	954, 823	59, 957	44, 695
Great Britain	736, 933	1, 005, 432	810, 193	257, 331	29, 539	21, 601	26, 557
China	2, 200, 552	2, 773, 475	1, 973, 878	2, 311, 890	2, 783, 611	90, 912	153, 428
Germany	.....	289, 338	121, 619	115, 164	131, 866	4, 566	149, 807
France	.....	132	659	371, 271	56, 688	.....	.....
East Indies	.....	19, 656	.....	.....	13, 358	50	622
Total	3, 683, 816	5, 008, 413	4, 854, 342	4, 571, 905	3, 970, 085	177, 176	375, 129

PRODDUCTION AND COMMERCE IN CRUDE CAMPHOR IN JAPAN.

REPORT OF CONSUL JERNIGAN, OF OSAKA AND HIOGO.

The principal provinces in Japan in which camphor is produced are Tosa, Hinga, and Satsuma, all situated to the south of this port.

In the earlier days of the trade the camphor produced in Tosa graded higher in the markets than that produced in the other provinces, but latterly the preference has not been maintained, and the product of the three provinces now commands about the same price. The largest quantity of camphor is produced in the province of Satsuma. The consumption among the natives is small, and were it not for the foreign demand there would be but little encouragement among the natives to engage in its manufacture. Camphor is the resinous gum made by distillation from the branches and roots of a species of laurel tree, and it will be observed that the extraction of the camphor totally destroys the tree.

There was once a custom in Japan that when a tree was destroyed another had to be planted in its place. This custom had the binding force of a law, but has now become obsolete. And the failure to observe it may, to some extent, be regarded as one of the causes for the advances in the price of camphor.

Another cause is that large groves of camphor trees are owned by the Japanese Government and reserved for ship-building and other purposes, and the trees in the possession of private individuals are fast becoming exhausted. It must, therefore, necessarily follow that unless some arrangement can be made by which these camphor groves can be utilized for medicinal purposes, the price of the drug must continue to advance. Camphor wood is very valuable and useful in the East. It is impervious to insects, and during all seasons of the year, especially during the spring and summer, it is necessary to keep such woolen clothes as are not worn daily, in boxes made of camphor wood, instead of in trunks or wardrobes. Camphor is packed in the country in conical-shaped wooden tubs, varying in height from 1 foot 6 inches to 2 feet, and in diameter, at the largest end, from 1 foot 3 inches to 2 feet, and holding from 100 to 200 pounds avoirdupois. The sizes and weights of the tubs depend upon the locality where the camphor is produced. Thus, the largest sizes come from Tosa, as the facilities for moving them to the seaboard are easier than in Satsuma, where the tubs have to be carried oftentimes many miles among the hills and over bad roads on the backs of horses to the places of shipment. Camphor is seldom shipped to foreign countries in the original tubs, as these are of irregular sizes, and, to save freight, most shippers remake the tubs to conform to certain models.

The provinces above named being separated from this port by water, all camphor is brought here in junks and small steamers, and at reasonable charges for freight.

As the manufacture of camphor is carried on in rather inaccessible places, all of which are outside of the treaty limits, few foreigners have ever seen the process; and probably no one has been able to estimate the cost at the different stages of production. The work is done en-

tirely by the poor ignorant country people, and with utensils which are described as being of the most primitive kind. Nothing of the nature of foreign machinery has ever been introduced to take the place of the small and rude stills which are to be found scattered among the forest where the camphor trees are most abundant. There are no statistics available to show the number of people or the amount of capital engaged in the business, but there is little doubt that the workmen get much more than a bare living for their labor. There is a fair profit in this industry, but it is not shared by the producer, the laborer.

I would suggest the importance of sending a special agent to the provinces where camphor is produced to study the *modus operandi* of the whole industry, for the information, most important, cannot be obtained unless one is on the spot, and then it will require several weeks of close observation of every detail, &c.

There is no industry in Japan where the sources of information are so securely closed as that of camphor.

The subjoined statement will show the yearly exports of native camphor, and its value in yen, since the opening of this port to foreign trade.

T. R. JERNIGAN,
Consul.

UNITED STATES CONSULATE.
Osaka-Hiogo, Japan, November 29, 1886.

Statement showing the yearly exports of native camphor, its value in yen, &c., since the opening of this port to foreign trade.

Year.	Quantity.	Value.	Remarks.
	*Picul.**	*Yen.*†	
1868	983.00	10,780.00	During these periods the prices ranged from $13 to $24 per picul.
1869	8,059.26	110,064.59	
1870	10,685.79	136,435.40	
1871	588.29	6,599.16	
1872	1,520.96	22,051.96	
1873	393.42	6,057.53	
1874	1,644.72	24,202.81	
1875	2,188.82	28,757.85	
1876	8,477.55	87,089.60	
1877	8,984.25	126,174.50	
1878	14,716.91	199,144.60	
1879	10,853.95	176,297.13	
1880	20,220.00	.....	No value has been kept for these periods. Average prices from $15 to $16 per picul.
1881	21,344.00	.....	
1882	31,610.00	.....	
1883	35,660.00	.....	
1884	29,900.00	.....	
1885	25,200.00	.....	Average price, $15.76 per picul.
1886 to June 30	20,700.00	.....	At present the prices are from $18 to $20 per picul.

*Weight of picul is equal to 133 pounds.
†Average value of one Japanese paper or silver yen is 79 cents United States gold.

CAMPHOR IN JAPAN.

REPORT OF CONSUL BIRCH.

The manufacture of camphor in the island of Kiu-Siu, of which Nagasaki is the only port open to foreign trade, is an important industry. From resources at hand I have compiled the following table, showing the amount and value of the export in crude camphor for the past four years:

Year.	Amount.	Value.	Price per picul.
	*Piculs.**	*Yen.*†	
1882	15,219.37	254,728.95	$16 70
1883	18,074.81	171,689.39	13 10
1884	13,796.22	155,842.58	11 30
1885	16,245.68	219,516.06	13 40

* Picul=133⅓ pounds. † Yen=81 cents United States gold.

The above statement merely shows the quantity and value of the drug exported from this open port, as shown by the customs reports, while in fact an equal amount is shipped from other ports of the island by natives in native vessels to the northern ports of the Empire and to the neighboring ports of Shanghai and Hong-Kong, in China, there to be sold for export to India, Europe, &c.

The camphor tree (*Laurus camphora*), from the wood of which the crude camphor is obtained by means of distillation, grows abundantly in all parts of this island. Many of the trees on what are called Government preserves, attain an enormous size, specimens frequently being found 14 to 15 feet in diameter. In the process of manufacture the tree is necessarily felled, but by a regulation of the Government another is planted in its stead, thus providing against the utter destruction of the species which would otherwise necessarily come to pass.

The native method of manufacture is very simple. The wood of the tree being cut in small pieces or chips from one and a half to two and a half inches in size is placed with water in an air-tight wooden tub (protected from the fire by a coating of mud or clay) or iron pan, and boiled over a slow fire. A bamboo pipe conveys the steam which is generated to vessels filled with cold water. The camphor volatilizes with the steam, and passing through rice straw, which is suspended in the water, condenses and is deposited on the straw in small, white, sand-like grains. It is then separated from the straw in an unrefined condition, and when packed is ready for the market. The wood will sustain five or six boilings, each the duration of twenty-four hours, before entirely exhausted, 320 pounds of camphor-wood chips producing about six pounds of crude camphor. The drug is packed in matted wooden tubs, each tub containing 200 pounds, and is transported to the seaboard by pack animals and coolies. The foreign firms who purchase camphor from the natives in its impure state usually put it through a further process by subliming it from quick lime in iron vessels in which it condenses in the translucent cakes we know at home as the camphor of commerce.

The native producer sells his product at an average price of $13.50 per picul (133⅓ pounds), which allows him but a very small profit over the cost of production and marketing. An increased demand for crude camphor in the markets of the world would secure a larger supply from this island than at present, but a supply which must necessarily be limited, owing to a regulation of the Government, which, as a protection to the industry, only permits the felling of a certain number of trees each year, and although a tree is planted for each one destroyed the growth is so slow that increasing production will of necessity lessen the amount of raw material available.

JOHN M. BIRCH,
Consul.

UNITED STATES CONSULATE,
Nagasaki, Japan, December 20, 1886.

CAMPHOR IN FORMOSA.

REPORT OF VICE-CONSUL COWLES.

The mainland comprised in the Foochow consular district being mostly cleared and populated, the camphor used here comes from the northern part of Formosa Island, 140 miles to the east.

Ignoring the small quantities leaving Formosa by junk from Lukiang, Hoolong, and Teckcham, not ports of foreign entry, crude camphor was exported (duty 37 cents gold per cental) from the treaty port Tamsui, roughly, as follows, selling in hills at $6 to $10 gold (varying with Hong-Kong price and demand):

Years.	Quantity.	Years.	Quantity.
	Centals.		*Centals.*
1877	18,000	1882	6,600
1878	18,000	1883	4,000
1879	15,000	1884	600
1880	16,500	1885	4
1881	12,500		

In the later years of the series the tattooed aborigines held their own against the encroachments of the camphor-felling Chinese. Chinese brigands take asylum with the aborigines across the border, while within the frontier Chinese bullies levy locally for defense until they even defy their own authorities. A thousand murders a year along the 150-mile border are charged upon the aborigines.

The late war with France having drawn many Chinese troops to Formosa, the war governor of the island is availing of their presence to "pacify these aboriginal mountaineers, children of the present hour," some with lead, some with gifts of clothes. Seventy thousand garments were lately contributed therefor by wealthy Chinese settlers. Upon withdrawing into summer quarters the governor reported 6 square miles retaken from the savages, and 400 villages, with 70,000 aborigines reclaimed, leaving 100,000 aborigines still to deal with.

Should enough virgin camphor woodland be wrested from the aborigines, camphor production will probably increase again.

A newspaper lately rumored that an American firm were to monopolize the Formosan export of camphor, but I do not find it well founded. A Chinese of means, exempted from a forced contribution, has, in gratitude, tendered and taken control of licenses to run camphor furnaces and to cut rattans, both these being sometimes carried on in the same bush. All camphor made a minimum of a cental daily for each furnace licensed. Licenses are bound to turn in at about gold $4.30 per cental to Government, which in turn sells to any one.

Neither those controlling nor those taking out licenses gain much.

The large camphor-wood is sawn into deals; the refuse (and deals sometimes) are steamed to extract the camphor. Camphor production is not likely to be carried on by Europeans on a large scale and by western methods there, but by Chinese in their rude steaming-boxes, where the clearing of each laps the still wooded hills, the country being broken and almost without paths or navigable streams. Borne by shoulder-yoke two to four days' portage across twenty mountains and hills to Tamsui for shipment, it loses, some say, 10 per cent. in transit.

At Tamsui, in 1878, a foreign firm pressed it by western method for export, but the Chinese continued to export it in tubs (with what water it would absorb?) to Hong-Kong, where it may still be rammed into lead-lined or tin-lined boxes or drums, containing a cental and over, for export to Calcutta and abroad.

The ground once denuded wholesale of its slow-growing camphor trees is planted in indigo, tea, &c.; and as a $3 steam passage from the mainland yearly brings thousands of adults to support the encroachment of farming Chinese upon the woodland aborigines, the next generation may see Formosa practically cleared of camphor-wood, and export of camphor a thing of the past.

J. P. COWLES,
Vice-Consul.

[Inclosure in Vice-Consul Cowles's dispatch.]

Even prior to 1867 the sale of camphor was farmed by the intendent of Formosa to wealthy natives, the mandarins buying it in the hills at $4.50 gold a cental and selling it at $12 to the monopolist, who in turn sold it in Hong-Kong at $21.

The gigantic laurel (*Laurus camphora*) that yields the camphor covers the whole line of high mountains extending north and south throughout Formosa, but as the greater part of this range is in the hands of the aborigines, the Chinese are able to gain access only to those parts of the mountains contignous to their own territories that are possessed by the more docile tribes. The trees, as they are required, are selected for the abundance of their sap, as many are too dry to repay the labor and trouble of the undertaking. A present is then made to the chief of the tribe to gain permission to cut down the selected trees. The best part of the tree is secured for timber and the refuse cut up into chips. The chips are boiled in iron pots, one inverted on the other, and the sublimated vapor is the desired result. The camphor is then conveyed away in carts of rude construction, and stored in large vats, with escape holes at the bottom, whence exudes an oil known as camphor oil, and used by Chinese practitioners, for its medical properties, in rheumatic diseases. From the vats the camphor is stowed in bags, to contain a picul each (1⅓ cental), and is thus exported. The Chinese Government has empowered the Formosan authorities to claim on its account all the timber produced by the island for ship-building purposes, and it is on this plea the Taotai (intendent) appropriates the prescriptive right of dealing in camphor. About 6,000 piculs (8,000 centals) are annually produced in the neighborhood of Tamsui. (From Denny's Treaty Ports of China and Japan, 1867.)

CAMPHOR DISTILLATION—PRIMITIVE PROCESS.

[Tamsui Trade Report, E. C. Taintor, 1869.].

A long wooden trough frequently, hollowed out from the trunk of a tree, is fixed over a furnace, and protected by a coating of clay.

Water is poured into it, and a board perforated with numerous small holes is luted over it. Over these holes the chips are placed and covered with earthenware pots. Heat being applied in the furnace, the steam passes through the chips, carrying with it the camphor, which condenses in the form of minute white crystals in the upper part of the pots.

NOTE BY MR. COWLES.—One native says that the camphor-wood planks also are boiled [*quære*, steamed], the camphor thus obtained concentrated, and the planks afterwards sold as lumber.

Stevens on Stowage says: "Every *Laurus camphora* contains camphor, which is extracted by boiling the branches, when chopped, in water. The camphor rises to the surface, and becomes solid as the water cools; in some instances the boiler in which the operation is conducted is covered with an earthen dome lined with rice straw, to which the camphor attaches itself as it rises with the steam when the water boils; it is afterwards picked off and packed."

Note to accompany map of North Formosa, drawn by J. W. Patersson, Customs Service, 1882.

[Map copied by Chinese writer of the consulate, Foochow.]

The north and south Tango ranges are inhabited by the Tango tribes, who carry on an incessant warfare with the Chinese wood-cutters and squatters.

These ranges are also thickly wooded with valuable timber trees, such as the camphor, the *Thuja formosana*, the sasam (a species of palm), the *Liquidambar formosana*, the *Camellia oleifera*, the lama and katang (unclassed), the oak (*Quercus ilex*?), and many other varieties. Rattans also grow in abundance.

A CAMPHOR MONOPOLY.

REPORT OF CONSUL CROWELL, OF AMOY.

The reports of the customs authorities in Formosa indicate a constant diminution in the production of crude camphor during the past few years, and the early extinction of that industry from among the industrial pursuits of that island.

Since the termination of the Franco-Chinese war Formosa has been made a separate province and placed under the jurisdiction of a governor-general by the Imperial Government.

A new broom is not more active for reform than this new governor-general is in the new province of Formosa. He, among his other activities, has instituted many new taxes—heretofore quite unknown in Formosa—and among these, on the lingering remains of the camphor industry, he has erected a Government monopoly of that business, which, from all the information I can gather, seems likely to hasten the speedy extinction of the small camphor industry yet remaining. This camphor monopoly, so created, is comparatively of little moment, except as it seems to be a revival of the old co-hong system, and a restriction upon the foreign trade of Formosa, so far as the article of camphor is concerned.

Some very intelligent foreigners regard this as but the first step or entering wedge, a feeling of the way, by the native authorities of Formosa, to similar and more important Government monopolies in other and more important articles of industry and trade that might cause irreparable injury to foreign commercial interests connected with the trade

of Formosa; such, for instance as the tea and sugar trade. And as nearly all the tea produced in Formosa finds a market in the United States as well as some of the sugar product, the creation of Government monopolies in that island may justly be viewed with more than ordinary interest as to their present and probable future effect upon American interests. I herewith inclose for the information of the Department a copy of the circular notifying foreign residents of the creation of the camphor monopoly in Formosa.

WM. S. CROWELL,
Consul.

UNITED STATES CONSULATE,
Amoy, December 7, 1886.

TAMSUI, *October* 27, 1886.

SIR: In conformity with the instructions conveyed in your dispatch No. 113, in which you inclose a copy of a circular from the Department of State, dated August 4, 1886, I have now the honor to report on the present condition of the camphor trade, as carried on in North Formosa.

General LeGendre, formerly United States consul at Amoy, in "Reports on Amoy and the Island of Formosa," published at the Government Printing Office at Washington, 1871, has reported at great length on the mode of preparation adopted by the aborigines, and Hak. Kas. in the production of camphor, and the process then in use remains unchanged, but the trade has, owing to a variety of circumstances, become greatly curtailed, and at present, as far as foreign merchants are concerned, may be called extinct.

The principal reason is that the savages or aborigines, as they are variously called, have gradually been driven to the hills, and all the conquered territory cleared by the Chinese as soon as it fell into their hands. Camphor trees have shared the fate of brushwood and jungle, and no steps having been taken to plant fresh trees the production has almost entirely ceased. Such ground as the Chinese acquire is, after it is cleared, planted out in rice, sugar, hemp, or tea, and the island of Formosa is every year becoming more like the mainland of China, closely cultivated, a result of the continued immigration from China. The hills, the natural home of the aborigines, have afforded by their dense cover an impenetrable barrier to further action on the part of the Chinese authorities, and as operations against the savages have until recently been conducted in a desultory manner, no real progress has been made.

I cannot do better than here quote from Mr. Commissioner Farago in his report to the imperial maritime customs, China, year ending 1885. He writes as follows:

"*Camphor.*—Predictions pronounced on the fate of this commodity seem now to be consummated. During the whole year not more than 3 piculs of camphor were exported and only on the 23d day of December. It is, however, more than probable that the production will be much greater next year, but even this will not signify the revival of the trade. Camphor as an article of export will most likely linger on for some years before the trade in it is finally extinct, but it will hardly ever recover its former importance. During last year there has certainly been much to interfere with its production. Emboldened by the hill men evacuating their positions in the mountains, the savage tribes left the woods, came and attacked the Chinese settlements, and inflicted injuries not at all inconsiderable. Since the cessation of hostilities, however, the hill men, largely re-enforced, have resumed the offensive against the aborigines, and as operations are being conducted on a more sound basis than heretofore, good and quick results are expected. The building of roads across the mountains would then be pushed on with vigor and new fields opened for exploration."

Over the mode of production of camphor, foreign merchants can exercise no control, nor can they use any machinery that might improve its quality or lessen its cost of manufacture, the districts from which it comes being many miles beyond the limits of the treaty ports. It is true that foreign merchants can buy camphor in small quantities still, but the trade is unremunerative and has fallen entirely into the hands of the native Chinese dealers. A few piculs yearly find their way to Hong-Kong and fetch about $17 to $22 a picul, meeting with competition from Japan. But camphor is yearly becoming scarce here, and it is only a question of a few years before the trade will have become entirely extinct.

I have the honor to remain, sir, your obedient servant,

T. G. GOWLAND.
Consular Agent.

WM. S. CROWELL, Esq.
Consul, Amoy.

HER MAJESTY'S CONSULATE, TAIWAN,
October 21, 1886.

SIR: I have the honor to acknowledge the receipt of your dispatch No. 114, of the 7th instant, inclosing copy of a circular from the Department of State, calling for information as to the production of and trade in camphor.

I regret much that it is not in my power to afford you any very full information on the subject.

Camphor has been produced during the past fifteen years in very small quantities, and the trade in it has been practically *nil*. The camphor-producing districts are either in or bordering upon the country held by the savage tribes, and the risks incurred by the camphor-boilers are so great as to deter the Chinese from engaging in the business unless the profits to be made are exceptionally high. The Chinese Government have now resumed their monopoly of the production, and camphor-boiling is forbidden, save to those holding a Government license.

All camphor produced is taken over by the Government at a fixed rate, and will be exported to Hong-Kong by junk.

In the meantime, however, the people decline to take out the Government license, as the remuneration is insufficient and the protection afforded them against the savages is merely nominal, so that the Government monopoly has not so far proved a success.

One foreign firm is trying to start the trade here, and, having made contracts before the re-establishment of the monopoly, they may be able to get their camphor down from the country, but it is more than doubtful whether it is possible at present to revive the trade. The camphor tree is in great abundance in the hill districts, and it is only the short-sighted policy of the Government and their neglect to afford their Chinese subjects proper protection against the savages that prevents a remunerative trade being done in raw camphor.

I have the honor to be, sir, your obedient servant,

PELHAM WARREN,
H. M. Consul, acting as United States Consular Agent.

WM. S. CROWELL, Esq.,
United States Consul, Amoy.

CIRCULAR.

At the request of the local authorities, the undersigned begs to inform foreign merchants that the provincial government of Formosa has made a monopoly of the camphor trade on the island, and in this connection to draw their attention to the following points:

(*a*) That the sale of camphor by private producers or other individuals shall hereafter be considered illicit, none but government agents being authorized to sell the article.

(*b*) That a government office for the administration of camphor trade has been opened at Banka, where camphor may be purchased by Chinese and foreigners alike.

(*c*) That in order to prevent fraud all camphor obtained from government will be provided with a pass and a certificate, which are to be produced at the custom-house previous to shipment to another port.

(*d*) That camphor is to pay, as heretofore, the legal charges of export duty, as specified in the tariff, and of inland taxes, amounting to one-half of the former.

(*e*) That the sale of camphor being now restricted to government alone, the custom of going inland with transit passes, in the sense of Article VI of the tariff rules in the British treaty, and as far as the one item of camphor is concerned, should hereafter be relinquished.

EDW. FARAGO,
Commissioner of Customs.

CUSTOM-HOUSE, TAMSUI, *September* 28, 1886.

OPIUM IN HAWAIIA.

REPORT OF VICE-CONSUL-GENERAL HASTINGS.

I inclose an act passed during the recent session of the legislative assembly of this Kingdom to regulate the importation and sale of opium.

From the time the bill was first introduced by Kannamäus, one of the native members, until its passage, it was vigorously supported by the native Hawaiian members of the house, and as vigorously opposed by all the "braole," or foreign element, both in the legislature and outside.

After the passage of the bill, strong and persistent efforts were made to obtain the King's veto, but it was signed, it is said, by the advice of his ministers.

A law licensing opium was passed by the Legislative Assembly of 1884, but was so strongly opposed by the foreign residents and also by many native Hawaiians that the King refused to legalize it with his signature.

Among the petitions for a royal veto at that time was one signed by 1,500 Chinese merchants and planters.

FRANK P. HASTINGS,
Vice and Deputy Consul-General.

UNITED STATES CONSULATE-GENERAL,
Honolulu, December 20, 1886.

AN ACT to regulate the importation and sale of opium in this Kingdom.

Be it enacted by the King and the Legislative Assembly of the Hawaiian Islands in the legislature of the Kingdom assembled:

SECTION 1. The minister of the interior is hereby authorized, with the consent of His Majesty the King, in cabinet council, to grant to some one applying therefor a license to import and sell opium or any preparation of opium in this Kingdom, upon the said minister of the interior receiving for such license the sum of thirty thousand dollars for each year.

SEC. 2. Before the license provided for in this act is issued the person or persons who have obtained the same shall make and execute and deliver to the minister of the interior a good and sufficient bond in the sum of ten thousand dollars, with not less than one good surety to be approved by the said minister, conditioned that the party or parties who have obtained the license will not sell, give, or furnish any opium or preparation of opium to any native Hawaiian or Japanese, or to any other person who has not received a certificate from some physician stating that opium is the proper remedy for the disease from which the bearer is suffering, and that the rules and regulations contained in the license will not be violated.

SEC. 3. The person receiving such license shall keep in a book of record, to be furnished him by the minister of the interior, a record of the names of all persons to whom such licensee has sold any opium, with the date of such sale and the quantity sold, and the name of the physician issuing the certificate on which sale is made, and the date of such certificate. Such record book shall be kept in the English and Hawaiian languages, and shall be open to inspection at any time to any member of the police force and the minister of the interior. The person holding the license shall give to each person purchasing opium a receipt stating the date of such purchase and the quantity of opium sold.

SEC. 4. Every person not having a license who shall have possession of any opium contrary to the provisions of section 3 of this act, or who shall sell or furnish any opium, or preparation of opium, to any person or persons contrary to law shall, upon conviction thereof, be fined in a sum not less than one thousand dollars nor more than five thousand dollars, and be imprisoned at hard labor for any term not more than ten years nor less than two years.

SEC. 5. The person who has obtained a license under this act is hereby authorized to import opium or preparation of opium through the custom-house, paying a duty upon the same of fifteen per cent. ad valorem, and there shall be charged on each container of opium at the rate of one dollar for each half pound of opium imported for a stamp to be put on each tin of opium imported. All opium seized which has been brought into this Kingdom without paying duty, and all opium which has not been stamped, shall be forfeited to the Government, and shall be stamped with the Government stamp. The Government may dispose of such opium to the party who has received the license upon his paying the duty upon the same of fifteen per cent. ad valorem, and one dollar per tin for the stamp.

SEC. 6. The person who has obtained a license who shall violate any of the provisions of this act shall have his license canceled, and the penalty of the bond provided for in this act enforced, and be imprisoned at hard labor for a term not more than ten years nor less than two years, and pay a fine of not more than five thousand dollars nor less than one thousand dollars.

SEC. 7. In addition to the license prescribed by section 2 of this act, it shall be incumbent upon any person or persons desiring to purchase or use opium or any preparation thereof that they obtain a license from the marshal or his deputy, as hereinafter provided, authorizing the intending purchaser to use opium or any preparation thereof.

SEC. 8. The minister of the interior shall have authority to make rules and regulations for the proper regulation of the sale of opium or its preparations under this act, and such rules and regulations, after being duly published, shall have the force and effect of law, and upon any violation thereof the party or parties so violating the same shall be subject to the penalties provided in section 6 of this act for four years, which shall be the length of time for which such license shall be granted, and it shall be so stated in the license.

SEC. 9. Jurisdiction is hereby conferred upon police and district magistrates to hear and determine all cases which may arise under this act.

SEC. 10. One-half of the money penalties provided for by this act shall be paid to the party who gave the information which led to the conviction of the offender fined.

SEC. 11. All laws and parts of laws in conflict with the provisions of this act shall be, and the same are hereby, repealed; provided, however, that should no license be issued under the provisions of this act, that then and in such case this act shall not be deemed to nor shall it repeal chapter 56 of the laws of 1874, as amended by chapser 63 of the laws of 1876, and chapter 18 of the laws of 1880.

SEC. 12. This act shall take effect and become law from and after the date of its approval.

Approved this 15th day of October, A. D. 1886.

KALAKAUA REX.

TRANSVAAL GOLD FIELDS.

REPORT OF VICE-CONSUL KNIGHT.

Gold mining in the Transvaal has been carried on in a desultory manner for something like fifteen years. The fact that a large portion of the northeastern territory of the Republic is highly auriferous had been ascertained years ago; but the failure until quite recently to discover anything like payable gold, has kept the fame of the Transvaal, as a country of great mineral riches, in the background. It was only in June last that the now famous Sheba reef in De Kaap Valley was discovered. The quartz from this reef yields from 10 to 30 ounces gold to the ton. The amount of gold that mining experts claim this reef contains is fabulous. But even this wonderful reef has been eclipsed by another reef discovered shortly after and known as the Thomas reef, samples of quartz weighing 3,000 pounds from which, it is claimed, yielded 148 ounces of gold. These discoveries naturally gave an impetus to prospecting on a large scale, resulting in the discovery of marvelously extensive and rich gold-quartz veins. The territory within which gold quartz has been found extends from Witwatersrand, 30 miles from the capital, Pretoria, easterly 200 miles to the De Kaap Valley, with a varying width of from 30 to 150 miles. These gold-bearing veins

or reefs occur in patches of a more or less rich or payable character. Quartz taken from the Witwatersrand gold fields has yielded from 4 to 30 ounces gold to the ton. It is, of course, impossible, considering the embryonic state of these gold fields, to give anything like an accurate account of their extent or capabilities. This much I am able to state, from the best information obtainable, that the Transvaal fields when fully developed will prove among the richest in the world. These discoveries have naturally given rise to no end of speculation and mining ventures, and a great rush of capitalists, miners, and adventurers has set in for the fields. Near the Shelba reef a city, Barberton, has sprung up as if by magic, numbering already 7,000 to 8,000 population, and is rapidly increasing. As an illustration of the faith that men of capital have in the stability and future of the fields, I may mention that three cargoes of lumber which arrived in Cape Town within the last two weeks were purchased for shipment to the fields.

THEIR SITUATION AND MEANS OF ACCESS.

Barberton, the center of the fields, is situated in the De Kaap Valley in the northeastern portion of the Transvaal between latitude 25 and 26 south. The nearest seaport is Delagoa Bay, in the Portuguese possessions on the east coast, from which it is distant about 200 miles. This route is only available in the winter months, the prevalence of fever in the summer time effectually closing it to traffic. A railway between Delagoa Bay and Pretoria is in course of construction, and its completion will greatly facilitate communication with the fields. The next nearest route to Barberton is via Port Natal, distant 481 miles, of which 189 miles is by railway and the remainder by wagon. The best and most popular route at present is by way of Cape Town to Kimberley, 646 miles by rail, and from Kimberley to Pretoria, 360 miles by wagon. The journey is made by this route in from six to twenty days, at a cost of from $75 to $120, according to class and style of traveling.

OPPORTUNITIES FOR THE MINER AND CAPITALIST.

While these fields offer many opportunities for successful ventures to men of capital, I cannot too strongly point out the futility of men without means venturing here, unless they be thoroughly practical miners. In the first place, no payable placer-gold washings have as yet been discovered. The result of successful prospecting has thus far been invariably the discovery of gold-quartz reefs, the working of which requires large expenditure for machinery. While a few have, and others undoubtedly will, continue to reap riches by the discovery of payable gold reefs, thousands, who, in the absence of alluvial diggings, will follow prospecting, will, I fear, be doomed to bitter disappointment. The large influx of population has already raised the price of food to famine prices. The time that must elapse before companies will be in working order, owing to the want of machinery and the difficulties of transport, makes the employment of large bodies of men impossible for some time to come.

TRANSVAAL MINING LAWS.

The Transvaal mining laws are fairly liberal. Aliens enjoy the same rights as citizens as to prospecting and mining. The fee for a "digger's

license" is $5 per month. This entitles the holder to prospect upon Government lands or private lands with the consent of the owner. A licensed digger is allowed to hold one alluvial and one reef claim, and may buy claims from other claim-holders. An alluvial claim is 150 by 150 feet, and a quartz reef 150 in the direction of the reef and 400 feet broad. No claim marked off by a digger can be "jumped" until the holder shall have ceased working, or caused to be worked thereon, for fourteen consecutive days.

OPPORTUNITIES FOR AMERICAN ENTERPRISE.

The development of the Transvaal fields offers a chance for American enterprise, of which it should not be slow to avail itself. The greatest drawback at present is the want of quartz-crushing machinery. Judging from the number of companies that have been organized, and the large area of gold-quartz reefs, the amount of machinery which will be required within the next few years will be very great. American manufacturers of stamp batteries should bestir themselves and take measures to secure at least a portion of this trade. If an agent were sent out with a sample of the latest improved stamp-battery, I believe he would do well. As it may be of interest, as well as use, I will briefly describe the kind of quartz-crushing machinery in use here, with the mode of securing the gold: The stamps weigh from 750 to 800 pounds, and, when working with full power, make from 75 to 80 strokes a minute, crushing about 1½ tons of quartz in twenty-four hours. A stream of water rushes through the battery, washing the powdered quartz over copper plates covered with quicksilver. These retain the gold and are washed two or three times a day with a solution of cyanide of potassium to remove the salts of copper, and scraped once in twenty-four hours to remove the amalgam, from which the quicksilver is subsequently removed in a retort, when the gold is ready for sale.

In addition to quartz-crushing machinery, picks, shovels, axes, hardware, prospectors' outfits, and the usual wares and paraphernalia required at mining centers would, I believe, find a good market. In fact, only a week or two ago it was reported from Barberton that of the first three articles just mentioned none were in stock, the available supply having been sold out. I would, however, point out that, in order to successfully compete for this valuable trade, American merchants and manufacturers should dispatch competent American salesmen to introduce and further the sale of their wares. The trade is mostly in the hands of English and German firms, and they naturally prefer to push their countries' wares, though they may be inferior to the American article, rather than further the extension of the trade of their formidable American rivals. I have found that one live, energetic American drummer has done more in the way of introducing and popularizing American manufactures than a dozen consignments shipped at haphazard to commission houses.

W. J. KNIGHT,
Vice-Consul.

UNITED STATES CONSULATE,
Cape Town, October 13, 1883.

AMERICAN CATTLE AND DRESSED BEEF IN GLASGOW.

REPORT OF CONSUL UNDERWOOD.

NEW CATTLE WHARVES.

The "local authority" of Glasgow has just made new wharves, sheds, and slaughter-houses for imported cattle on the river below the city—for Canadian cattle on the south side and for cattle from the United States on the north side.

The "local authority" signifies the council of magistrates, which has erected the buildings, and the Clyde Navigation Trust, which has erected the wharves. The total cost of the buildings and improvements is nearly £70,000, of which the Clyde Trust pays £12,000. There are accommodations for 2,000 cattle on the north or American side, and for 2,500 cattle and some thousands of sheep on the south or Canadian side. The buildings are well ventilated, paved with stone or asphalt, and supplied with every convenience, including troughs of pure Loch Katrine water. The depth of the river at the wharves is such that ocean steamers lie there to discharge cargo. On the north side (for United States cattle) there are two wharves and two sets of buildings connected by a bridge 600 feet long, so that, in the event of the disease breaking out, the two receptacles could be kept separate. In connection with the slaughter-house there are store-houses containing 44,000 cubic feet of space, capable of holding 600 sides, with space for men to walk among them. They are constructed in the most perfect manner, with thick charcoal-lined walls, provided with overhead iron rails to bring in the beef, and cooled by a powerful current of cold air furnished by a refrigerating engine.

THE CHILL ROOMS.

The overhead rails run from the room where the carcasses are first hung up, and conduct by means of switches into the cooling chambers or chill rooms.

The side of beef is suspended from a hook which is attached to rollers running upon the overhead rails, and is moved noiselessly and with very slight effort.

The refrigerating engine was in motion when I visited the premises. It is a combination of the Bell-Coleman and the Haslam patents.

The engine is not very large, and consumes but 3 tons of coal per day. The cold-air cylinders and pipes connected with it were thickly coated with frost. Bottles of wine were shown that had been frozen solid in a closet under the cylinder, and snow was scraped out from the bottom and sides of the closet. It is this engine (under some of its forms) which is used in the ships that bring frozen mutton from New Zealand. The Bell-Coleman patent is now consolidated with the Haslam patent, and the machines are made at Derby, England.

The use of the chill rooms is not obligatory, nor is it necessary except in warm weather. The charges for storing carcasses in them are given in the official sheet which I herewith inclose (about 50 cents for the first and 25 cents for each succeeding day). I give a detailed account of the reception of United States cattle, &c., with regulations as to slaughtering them, and a table of fees, as furnished me by Mr. J. R. Adams, superintendent.

LIVE CATTLE.

Live stock from the United States is consigned to cattle agents in Glasgow, who dispose of it by public auction immediately on arrival. When landed the animals are placed in "reception lairs" (large airy stables) to await the arrival of the privy council inspector. If certified as sound the animals are conducted by a bridge to other lairs, where they are sold and slaughtered; meanwhile the "reception lairs" are put in order for the next arrival. In this second section the animals are treated as in other city abattoirs, with this difference, that they cannot be removed from it alive.

The butcher who requires only a single animal is placed on equal terms with the buyer of 50 or 100. Each purchaser slaughters his own animals; the hide, tallow, blood, &c.—all that belongs to the animal—being his property.

The stock is disposed of on such terms that it is free from all expense to the buyer until the day of sale. The buyer is liable only for slaughtering dues, 1*s.* per head, and for other charges, such as provender and lairage, incurred after purchase.

The following are the charges upon animals landed at this port:

To the local authority of the city of Glasgow, acting under the "contagious diseases (animals) act, 1878."

Dues.	Oxen, cows, or bulls.	Calves.	Sheep.	Pigs.
	s. d.	*d.*	*d.*	*d.*
Wharfage dues:				
Up to midnight of the day after that on which the animals may be landed .....per head..	2 6	6	3	8
For each 24 hours after or any part thereof...do.....	6	2	1	2½
Slaughter-house dues	1 0	8	3	6

It has often happened that cattle have been disposed of on the day of landing; in such case the charge to the shipper is 2*s.* 6*d.* (60 cents) per head. By dividing the expense in this way the shipper can have his account closed as soon as his stock is sold.

The act allows 10 clear days for the animals to be slaughtered after landing; the superintendent says that this clause has never been felt as a hardship, but the butchers with whom I have conversed do not all agree with him. The carcasses, dressed beef, of United States cattle landed at Glasgow may be estimated at an average of 800 pounds each.

GLASGOW MARKETS.

There is a ready and steady market for hides and tallow at Glasgow; hides are sold by auction twice a week, tallow once a month. Large quantities of hides are received here from England and Ireland; they have been known to bring 10*s.* ($2.43) more apiece here than could be got for them in Liverpool. Owing to the branding of United States cattle the bulk of their hides are sold as second class, and being from 12*s.* to 16*s.* less than the hides not branded. It is very desirable for stock-raisers to avoid branding, but if it is absolutely necessary, it is suggested that it be done upon a less valuable part of the hide. The neck or fore-arm (shank) might be a suitable place.

SUPERIORITY OF AMERICAN CATTLE.

It is noticeable, however, that the brands are sometimes referred to as proof that the cattle are from the United States and not from Canada, the United States cattle being upon an average far superior.

It is further suggested that the horns should be tipped, as the cattle often are injured, in their hides, at least, by the horns of their fellows while on ship-board.

On the day of inspection there was a good number of United States cattle at Pointhouse, and their good shape and condition were the subject of general comment. In the evening I had a conversation with some of the largest dealers in cattle, many of whom are also owners of shambles. It was stated by them, one and all, that cattle imported from the United States have been thus far superior in every desirable quality to average British cattle, certainly to those raised in Scotland. Their carcasses were not only fat and well fleshed, but were almost invariably healthy looking; their livers clear of spots; while in British cattle, and in Canadian cattle fattened here, the indications were seldom those of perfect health. Still they declared that among the common classes here there was an inveterate prejudice against foreign beef, American beef, especially, and that it was impossible to sell it to them, as they insisted on having home-fed beef, which was often the flesh of old cows and of worn-out oxen. It is probable, nevertheless, that the common people eat a great deal of beef from the United States, although they may not be aware of it. Among the educated classes here, and among all classes in England, that prejudice is less strong; in fact, many freely admit the superior excellence of our beef.

A considerable portion of the trade of Scotch butchers of United States cattle, and of the importers of dressed beef, is in supplying towns in the north and east of England.

IMPORTS OF MEAT.

For the year ending September 30, 1885, there were imported from the United States into Glasgow 19,786,612 pounds of beef. If we call 800 pounds the average weight of carcass, this beef represents 24,733 cattle. The live cattle from the United States for the same period were 14,007, making a total of 38,740 cattle. For the year ending September 30, 1886, the number of pounds of beef was 27,532,580, equal to 34,415 cattle. The live cattle were 10,299, making a total of 44,714, an increase of near 6,000 head in the aggregate. But it is to be observed that the increase was in dressed beef, while the number of live cattle fell off.

The cost of refrigerated beef from the United States by the carcass is from a penny to one and a half pence per pound less than beef from United States cattle slaughtered here.

It is the opinion of the butchers (I have quotations to verify it) that hides, tallow, &c., are at present worth more in the United States than here. Whether this is so or not, it is likely that difference of a penny or a penny and a half per pound will have its influence; the trade in refrigerated beef must continue to increase, and fewer cattle will be imported to be slaughtered here.

The greater part of the Canadian cattle are *store* cattle, and are sold to Scottish farmers to be fattened. They are upon an average from three to four years old, and bring at present from £12 to £15 apiece.

The farmers estimate that a good animal gains in a year at the rate of ten shillings weekly.

The only competition in this trade comes from Irish cattle, which are smaller, inferior in shape, and generally arriving in a worse condition after crossing the Channel than the Canadian cattle after a voyage of near 3,000 miles. The difference is striking, and is unaccountable.

It is certain that it would not be to the advantage of farmers in the United States to ship store cattle to this country. They do better to send them fattened for market. The advantage which the Canadians have is that they are not obliged to sell or slaughter their cattle as soon as landed.

As has been stated, cattle from the United States cannot be driven away from the landing-wharf, and must be slaughtered within ten days.

The superintendent informs me that since 1878 only one cargo of cattle affected by a contagious disease has been landed in Glasgow. I should state that the carcasses of animals slaughtered at Pointhouse are removed to the general city market as soon as dressed. There will be no glut at the wharves, but at the meat market, if anywhere.

FROZEN MUTTON.

To show how the importation of frozen mutton has affected the trade in sheep with the United States, it may be stated that for the year ending September 30, 1885, there were imported 925,282 pounds of mutton and 11,839 live sheep. For the year ending September 30, 1886, there were only 6,000 pounds of mutton and 1,193 live sheep. It was always a matter of difficulty to bring over sheep in good condition. They suffer from cold and motion, and show the effects painfully.

For the year 1885 there were imported into Great Britain frozen carcasses of mutton from Australia in number 95,051, equal to 2,679 tons (2,240 pounds); from New Zealand, 492,269, equal to 14,145 tons; from the River Plate, 108,823, equal to 4,440 tons.

It is impossible for the United States to meet that competition, because frozen mutton preserves its flavor and looks, and loses only 5 per cent. of its weight on the voyage. If it were in the same way with beef the cattle raisers of the United States would be in a dilemma; but fortunately for our country, beef does not keep its quality, flavor, weight, or nutriment when frozen, the loss being at least 25 per cent., and especially in the nutritious quality and flavor. The importations of frozen beef into Great Britain from those distant countries has not been remunerative.

FRANCIS H. UNDERWOOD,
Consul.

UNITED STATES CONSULATE,
Glasgow, November 2, 1886.

POSTSCRIPT.

Since completing the report I have received a letter from Schrader, Mitchell & Weir, dealers in hides, which I copy:

In reply to your inquiry in regard to brands and goring, the difference of selling rates at market yesterday were as follows: On hides weighing 93 pounds and upwards, first class, 4¼*d.* per pound, branded, 4*d.*; 84 to 92 pounds, first class, 4¼*d.*, branded, 3¾*d.*; 79 to 83 pounds, first class, 4¼*d.*, branded, 3¼*d.*; being, in round numbers, one

penny per pound on the weight of the hide. But this does not wholly cover the actual or trade loss, as hides gored or branded are thereby entirely unsuited for best leather purposes, such as straps, butts, or bends of high character, and they are consequently relegated to lower grades. For example, a sound hide of 80 pounds should yield 40 pounds of leather, for which we should get 16*d.* to 18*d.* per pound. If we call it 16*d.*, it would amount to 53*s.* 4*d.*, while a branded hide, yielding also 40 pounds of leather, would sell at, say, 11*d.*, yielding only 36*s.* 8*d.*; showing a difference of 16*s.* 8*d.* per hide.

Butchers inform us that goring is so bad that in some cases from 1 pound to 4 pounds' damage is done to the animal.

["Contagious diseases (animals) act, 1878."—Burgh of Glasgow.]

Provisional arrangement as to chill-rooms, Pointhouse foreign animals wharf.

The following rates for the use of these rooms have been adopted, viz:

Animals.	For carcasses taken in on any day and removed before midnight of the following day.	For each succeeding day, or any part thereof.
	s. *d.*	*s.* *d.*
Oxen.....per carcass..	2 0	1 0
Calves.....do....	0 9	0 6
Pigs.....do....	0 6	0 4
Sheep.....do....	0 4	0 3

All carcasses shall be deposited in the chill-rooms, and removed therefrom by the employés of the local authority, and the following charges shall be made therefor, viz:

	d.
Oxen	6
Calves	1
Pigs	1
Sheep	1

The local authority will not hold themselves in any way responsible for any loss or damage that may arise to, or in connection with, the said carcasses through failure of machinery or any other cause.

By order of the local authority.

J. D. MARWICK, *Town Clerk,*
Clerk to the Local Authority.

CITY CHAMBERS, GLASGOW, *June* 21, 1886.

THE OVERCROWDING OF THE LEIPSIC POOR.

REPORT OF CONSUL MILLAR.

A valuable and interesting essay on this subject has just been published by Dr. Ernst Hasse, of the statistical department of the corporation, under the title "*Wohnungsverhaeltnisse der aermeren Volksklassen in Leipsic.*" The importance of the question in its bearing on the social and moral well-being of the poorer orders of society will be sufficient justification for the following brief abstract of Dr. Hasse's results, particularly when it is borne in mind that Leipsic is one of the chief seats of the socialist movement in Germany.

The poor in Leipsic (population 170,342 in 1885) are found chiefly in three-quarters of the town—the inner town, the south suburb, and the inner ring of the east suburb. The inner town is a small complex of

streets which intersect each other at right angles, with the market-place in the center and a wide promenade or boulevard encircling the whole. In the more frequented streets the houses have for the most part been rebuilt of late years; but there still remain many which the owners are unable or unwilling to rebuild. These houses are all very old and in a more or less dilapidated condition. The lower floors are mostly applied to purposes of trade or industry, the upper floors, the attics, and such rooms as are useless for any other purpose are let out to the poor. For the most part such dwellings are badly lighted and ventilated, and the stairs and approaches are sometimes actually dangerous. In this latter respect, however, a great improvement has been lately introduced by an order of the town council, that landlords must in these cases provide sufficient artificial illumination of the stairways.

The south suburb is a product of modern times. The south is the only direction in which Leipsic has been able of late years to expand, extension being hindered towards the west by the public parks, and towards the north and east by the close proximity of the neighboring villages. The dwellings in the south are less unfavorable than in the inner town, though the usual defects of speculative building are present—narrow yards, thin and sometimes damp walls, and a tendency to get as much as possible into a small space.

But the poorest quarter of the town is a number of streets in the inner wing of the eastern suburb, abutting on the central promenade. The poor are here congregated in a nest of streets and alleys. The houses are old and dilapidated, with the small, low rooms and narrow windows characteristic of country laborers' dwellings, but without the freedom and air which make the latter endurable. On account of the central position of these streets the competition among the poor to get dwellings there is great and overcrowding at its highest.

DEFINITIONS.

Before proceeding to the statistics of the numbers who dwell in these houses it is necessary to define one or two expressions. A dwelling (*Wohnung*) is by no means synonymous with a house in Leipsic. A dwelling is only the room or rooms occupied by one household from whom the landlord receives the rent in one sum. In Leipsic there are many dwellings in one house, and frequently several on one floor. Household, again, may mean more than one family. By living-room (*heizbares Zimmer*) is meant in the following lines a room which can be heated by means of a permanent stove or fire-place. All dwellings do not possess living-rooms.

SIZE OF DWELLINGS.

The size of a dwelling in the poorer portions of the town is shown in the following extract from one of Dr. Hasse's tables, which gives the actual figures and the proportion per thousand:

Description.	Number of dwellings.			Proportion per thousand.		
	1875.	1880.	1885.	1875.	1880.	1885.
Total dwellings in Leipsic	23,999	28,510	32,110	.....	.....	.....
Dwellings with one living-room, with or without offices (*Zubehoer*), i. e. sleeping-closet, kitchen, &c	6,903	8,127	8,232	288	285	256
Dwellings with two living-rooms	6,373	7,765	8,529	265	272	265
Dwellings with three living-rooms	4,519	5,696	7,044	188	199	219

It will be seen from this table that half the dwellings in Leipsic consist of less than three living-rooms, and that a quarter of them have only one room. On the other hand, the number of such small dwellings has not increased of late years in the same proportion as the dwellings with three rooms. But in Dr. Hasse's opinion, this is not to be traced to an improvement in the condition of the poor, but to the cessation of the further supply of small dwellings. The poor are thus compelled to take larger dwellings, and to raise the rent as they can.

RENTS.

That the prices paid for these small dwellings are disproportionately high there is no doubt, although it is difficult to fix their exact relation to the income of the poor. According to Dr. Hasse, the rent swallows up 29 per cent. of an income up to 600 marks (1 mark = $0.23.8) per year and 21 per cent. of an income between 600 and 1,200 marks. If these amounts be taken as representing the average income of the poor, it will be seen that the proportion corresponds very nearly with the actual average rents as shown in the following table.

Average rents of small dwellings in Leipsic.

	Marks.
Without a living-room	90
With one living-room, but without offices	98
With one living-room and offices	185
With two living-rooms	303
With three living-rooms	453

These results are further confirmed by statistics gathered from the overseers of the poor in the several districts. From these I select one which is a typical case, and also indicates the way in which the poor have solved the difficulty of living in too large a dwelling.

Small hand-workers, porters, &c., generally have a dwelling consisting of one room, with a cooking stove, a sleeping closet, and a kitchen, perhaps with a cellar also, for which they pay 180 to 200 marks a year. If illness or want of work comes, the closet, and very often the kitchen too, is let off to lodgers at 1.5 or 2 marks a week.

DENSITY OF DWELLERS.

Underletting, therefore, and consequent overcrowding, is the solution. Dr. Hasse has tabulated with great care the number of individuals found in the different dwellings. Cases of special enormity are not wanting; it is not infrequent to find eight or ten persons crowded into one or two rooms, and even higher numbers are not unrepresented. But omitting these exceptional cases, we shall find that the bulk of the poorer population is unduly overcrowded.

Density in the smaller dwellings in Leipsic.

Number of inhabitants per dwelling.	Number of dwellings with no living-rooms.	Number of dwellings with one living-room and no offices.	Number of dwellings with one living-room and offices.	Number of dwellings with two living-rooms.
1	15	232	555	223
2	6	125	1,499	894
3	5	80	1,597	1,327
4	2	43	1,437	1,389
5	2	18	1,048	1,397
6	—	12	709	1,126
7	—	12	431	843
Total number of dwellings of each class	31	524	7,708	8,529

The same result is shown in a different form in another table which gives the number of different families who live in the same dwelling It has already been mentioned that the household from which the rent is collected is not always the sole occupier of the dwellings.

Dwellings with several families in Leipsic.

Dwellings.	Number of families in the dwelling.				
	One.	Two.	Three.	Four.	Five or more.
With no living-room	31	.....	.....	.....	.....
With one living-room only	524	.....	.....	.....	.....
With one living-room and offices	7,612	95	1	.....	.....
With two living rooms	7,928	575	24	1	1
With three living rooms	6,501	459	75	8	1

The result of this table is that of the families inhabiting dwellings of two and three rooms, 7 and 8 per cent., respectively, are unable to defray the rent even of so small a dwelling alone. There is, however, an apparent discrepancy between this and the preceding table, in which the density of three to six persons in one dwelling is shown to be much greater in dwellings with one room than in dwellings with two. The 1,126 dwellings of two rooms with six persons have only three persons per room, whereas there are no less than 1,597 cases in the smaller dwellings where three persons dwell in one room and 709 where actually six persons dwell in the same chamber. It is not credible that of these 709 cases all but 1 per cent. belong to the same family, while 7 per cent. of the less crowded population in the 1,126 cases are of different families. We have here to take into account the lodger element. Dr. Hasse regards any introduction of foreign elements into a family as an evil, and classifies such elements in increasing order of badness as servants, work people, furnished lodgers, and bedstead lodgers. Of these the last and worst class, the *Schlapleute* or bedstead lodgers, are the most frequent among the poor. The *Schlafherr*—bedstead lodger—differs from the *Chambregarnist* or furnished lodger, in respect that he does not have the use of his apartment in the day-time. In general he has the use of no apartment at all. He simply comes in to sleep at night. His only right is to occupy his bed in a room he shares with other similar lodgers or with the family. If he or she—for these lodgers are of both sexes—is at all particular nothing more than the bedstead is hired. The lodger provides his own mattress, and when he is dissatisfied with his accommodation literally takes up his bed and walks. The extent to which this class is represented in small dwellings is shown by the following table of the composition of the families:

Composition of the families in the smaller dwellings of Leipsic.

Composition.	Dwellings up to two living-rooms.		Inhabitants in same.	
	Actual number.	Proportion.	Actual number.	Proportion.
		Per cent.		*Per cent.*
Family and relatives	9,511	56.6	35,617	47.3
Family and work people	416	2.4	2,285	3.
Family and servants	535	3.1	2,481	3.3
Family and unfurnished or furnished lodgers	1,243	7.4	5,857	7.7
Family and bedstead lodgers	3,194	19.0	17,842	23.7
Other mixtures	1,893	11.2	11,086	14.7

Twenty-three per cent, of the poor are therefore, according to this table, compelled to live in intimate relations with the worst class of lodgers. Dr. Hasse and the overseers, whom he quotes, speak in the strongest terms of these lodgers, of their want of decency, their immorality, and the degrading influences they exercise on the family.

With the omission of minor points, such as foul smells, the neglected state of walls and ceilings, and the bad air in the rooms, this is the picture of the dwellings of the poor in Leipsic. Old, damp, or ill-built houses, high rents and social surroundings of the worst class, are the principal features. Of the cause of the over crowding Dr. Hasse has no doubt. It is due to the competition of speculative builders, and to the action of the town council, as owners of the town estate, on which the newer part of the town has been built, in availing itself of this competition to sell the lots at high prices. The population has always been dense in Leipsic, but by judicious selection of lots in different quarters of the town, to be let cheaply on condition that they should be devoted to the erection of cheap dwellings, Dr. Hasse thinks that the evil might have been checked, if not removed entirely. It is, in fact, in this direction that Dr. Hasse looks for remedy. The state, he thinks, can do no more than facilitate the movement of the population by cheap suburban fares on the railways, which are state property in Saxony. Private individuals can do much; as landholders, by subdividing the tenements and collecting the rent in short periods, whereby the risk of loss is reduced; as employers of labor, by providing suitable acccommodations for their work people. Private institutions and organizations are also mentioned with favor. But the question must eventually be dealt with by the town authorities. They need not erect dwellings on their account, but they will have to see that such dwellings are erected on town ground by private persons under conditions which will make the underletting profitable, and this should be done while there is still space, and land is comparatively cheap.

SAML. ROLFE MILLAR,
Consul.

UNITED STATES CONSULATE,
Leipsic, November 24, 1886.

GLASS INDUSTRY OF GERMANY.

REPORT OF CONSUL BLACK.

The manufacture of glass and looking-glass plates is one of the most important industries carried on within the limits of this consular district.

The rough glass is produced in the Bavarian forest, contiguous to the Bohemian border, where an almost inexhaustible amount of the raw material is found, and an unlimited supply of cheap fuel is also at hand.

The process of manufacture is by blowing, and the glass is known to the trade as five-eighths to three-fourths white. It bears a striking resemblance to the celebrated French crystal white, and the differences are not readily detected by the inexperienced eye, but the latter is cast, and consequently is made in much larger and heavier plates, and is by far the finer glass of the two, and of necessity much more expensive.

Almost this entire production of raw glass is ground, polished, and foliated here in the adjoining city of Fürth.

The grinding and polishing establishments are mostly situated upon the banks of the Pegnitz, a small mountain stream, which supplies motive power not only to this, but to many of the industries of this industrious community. The water rights are not inexpensive, however, and one that I know of cost 50,000 marks, or about $12,000, which would indicate an outlay, independent of repairs and other expenses, of about $4.50 per annum.

LABOR AND WAGES.

Naturally such an extensive business gives occupation to a large number of both men and women; the exact number, however, I found it impossible to obtain.

For a week's work of seventy-two hours the average compensation to grinders, a man and his assistant, who is usually his wife, is about $9; to the polisher and his help, who is also of his household, an average of about $7. These two classes of employés are also supplied with lodgings, consisting of three rooms—a sitting-room, a bedroom, and a kitchen; and those I have inspected were in very neat brick buildings of a most substantial character, cottage style, and built so as to conduce in every way to the comfort of the inmates.

These quarters compare very favorably with the general style of dwellings in use in this country. On the Continent, with but rare exceptions, none, not even the most wealthy, occupy a whole building; the entire residence as a rule is confined to one floor, and among the richer classes will not average probably more than six rooms.

Foliators, with their assistants, receive better wages than grinders and polishers, averaging from $10 to $11 per week of forty-eight hours. Homes, however, are not supplied, the cost of which may be estimated at $2.75 per month. The vocation, however, is very unhealthy. The quicksilver used in the work produces in a short time serious injury to the lungs and nerves, necessitating a month's rest every year, during which full wages are allowed, and after ten or twelve years a person is entirely unfitted to longer pursue this occupation.

It is contended that the mineral's action would not prove so injurious should the employés immediately upon quitting work thoroughly bathe and make an entire change of clothing, for by so doing the particles adhering to the skin, instead of being absorbed by the body to work the ill, would be removed. There seems to be no doubt that the women suffer much less from the baneful effects of the quicksilver than the men, which is attributed to the fact that they upon returning to their homes go through some ablutions, in order that they may be better fitted to attend to their household duties.

In some establishments the foliating is done with silver. This process has the recommendation of not being injurious to health, but it is not so durable as the other Defects are soon apparent, especially after a sea voyage, and it therefore cannot come into general use here, as this trade is almost entirely dependent for support on transmarine customers.

The proportion of total cost of production paid to labor is 29 per cent. on the small sizes, 26.8 per cent. on the middle sizes, 24¾ per cent. on the large sizes.

MODE OF LIVING.

In their manner of living these people naturally follow the customs universal throughout the country, and before going to work, like every

other German, be he high or low, rich or poor, they take a cup of coffee and a piece of black bread or a roll. Naturally so slim a breakfast is a guarantee for a keen appetite in the near future, and at 8 o'clock a recess of half an hour is allowed in which to satisfy the cravings of hunger; an adjournment to the nearest beer-house is usually made, where a glass of that beverage is purchased, and from the pocket is taken some bread and cheese or sausage, and these, combined with conviviality, furnish a most satisfactory meal. At 12 an hour is allowed for dinner, at which soup and vegetables are generally served, while once or twice in a week the monotony of this bill of fare is varied by beef, which is more expensive here than in the United States. At 4 o'clock another recess of half an hour is taken, and a lunch is consumed similar to the one eaten at 8 o'clock. The final meal is swallowed on quitting work, and then, if the pocket is sufficiently full, an evening at the saloon is in order, where frequent potations of the Teuton's favorite liquid are imbibed.

Their clothing is comfortable, and in their Sunday suits, cut after the prevailing styles, they present a very neat appearance. The material used is either of cotton or cotton and wool mixture; and 100 marks, or say, $25, would cover all the expense in this line which a man and his wife incur in one year.

The workmen appear very contented, and strikes in this trade are unknown; they receive their wages once a week, and spend it where and as they will.

The machinery in use in these establishments is very simple, and, so far as I can learn, it is all supplied by Nuremberg firms.

PRODUCTION.

The average annual production of glass in these factories will amount to between $2,250,000 and $2,500,000. The market for the same is in both Europe and America, but the demand from the United States is the barometer that gauges prosperity or depression, and if at any time it should be withdrawn, many of the proprietors would have to seek some other employment for their works in order to render profitable the capital therein invested, as the following figures will show:

Exports to the United States for the year ending December 31, 1885.

Quarter ending March 31	$257,513 75
Quarter ending June 30	382,684 10
Quarter ending September 30	406,809 28
Quarter ending December 31	416,051 47
Total	1,463,058 60

In the last year or two business in this line has been very unsatisfactory, and profits (like in all other trades here) very limited. I understand that the system of combination to curtail production was tried, but, as it has so often done before, it in this instance also proved a failure.

WILLIAM J. BLACK,
Consul.

UNITED STATES CONSULATE,
Nuremberg, Bavaria, August 20, 1886.

OYSTER-BREEDING IN GERMANY.

REPORT OF CONSUL GOODWIN, OF ANNABERG.

The experiments of transporting and breeding American oysters along the coast of the Baltic and North Seas, which have from time to time attracted public attention, have proved quite unsuccessful in all cases and entirely so in most.

In 1880, as was at that time reported by the United States commercial agent at Geestemünde, numerous beds of American oysters lying between Gravenshoved and Holkhsved were examined by Professor Möbius, of the University of Kiel, who expressed the opinion that American oysters would never spawn in German waters. Those referred to never did spawn, and it was in due time shown to the satisfaction of everybody that the attempts made in the localities before mentioned were complete failures. Yet, without a single past success to afford encouragement, men who know the excellence and value of the American oyster continue to attempt its propagation here. Mr. Feddenser, a merchant of the city of Schleswig, who takes a great interest in the subject of oyster-culture, is one of these persevering men. Having made experiments in a small way along the coast in the vicinity of Schleimünde, he became strongly of the opinion that the temperature of the water, the climatic conditions, and the nature of the seabed in that locality were exceedingly favorable to successful breeding of American oysters.

Accordingly, one day last week, Mr. Feddenser made a notable attempt. He planted 250 barrels of selected-breed oysters. In addition he constructed five large reservoirs of twisted iron wire, into each of which were put 5 barrels of young oysters. The reservoirs were then lowered to the bottom of the sea and made fast above. It is the intention to raise these reservoirs from time to time for the purpose of observing what, if any, degree of success is likely to attend the experiment.

Mr. Feddenser's attempt will be watched with great interest, and if it proves a failure it will probably be the last one made in Germany for a long time to come. The oyster is still considered a luxury in this country. A dozen raw oysters cost at a restaurant or hotel, in almost any part of Germany where they are to be had at all, from 2½ to 3 marks, equal to from 60 to 72 cents; and these are native German or Hollanders, which few people will claim are equal to our finest American oysters. The Germans, as a rule, are not good judges of oysters, and this is not to be wondered at, as the average man has never tasted one. They know nothing about American oysters, except those put up in cans, which are the smallest, and, generally speaking, the poorest that we have in the United States. It is proper to remark right here, however, that the sale of our canned oysters is increasing in Germany, and if only nice oysters are put up and care is exercised in sealing the cans, the market for these goods will no doubt become very much extended within a few years. Even in this little city, away up in the mountains, all kinds of American canned goods find a fairly good sale already, and one dealer does a very good business in canned oysters. The brand which I hear the most about is the "Cove Oysters," put up by a Baltimore house. It is small, but sweet, and has a remarkably fresh and wholesome taste for a canned oyster. The cans are not large, two being needed for a stew for a family of four or five persons. The cans are sold for 23 cents singly or 21 cents each by the dozen.

If one of my German friends should see a dozen well-developed Saddle Rocks on the half-shell I hardly know what adjectives and exclamations he would find with which to express his astonishment, and should he succeed in consuming one he probably would think as did Thackeray, when on his memorable visit to Boston he lunched on raw American oysters, and described the sensation after eating the first one. He said, "I felt as though I had swallowed a baby." I have met Americans in Europe who said they preferred the best quality of Dutch of German oysters to our own, because of the exquisite coppery flavor of the latter. As for myself I have found nothing exquisite about them, and nothing remarkable, except the price. Wealthy people here, who live well, and who have traveled in America and had opportunities to test our oysters, do certainly prefer them to all others, and they eat them. But the Government imposes a duty that is practically prohibitive on oysters, and so the masses must go without them. If there were no duty, excellent American oysters could be sold here at a profit to all concerned for less than half the present cost of the native oysters.

To supply what demand there is for American oysters, there are a number of persons in Bremen and Hamburg engaged in the business of importing them. I have in mind one man in the former city who does a profitable business, which I have reason to know is constantly increasing. His patrons are wealthy Germans and American residents. Bremen being a free city its residents are especially favored, as they may eat to their fill daily of fresh and luscious Blue Points, and at an expense very little, if any, greater than it would be if they lived in New York. The man to whom I refer receives every week, during the season, consignments of fresh, ice-packed Blue Points. He has regular customers in all parts of Germany, who have stated quantities forwarded to them weekly or fortnightly, as the case may be. The oysters come in original American barrels, and there are from 1,300 to 1,500 oysters in a barrel, the barrel and contents weighing about 230 pounds. The half-barrels contain from 600 to 700 oysters, and weigh about 115 pounds.

The duty on American oysters is $12 per 200 pounds. This Bremen importer charges the following prices, and guarantees that his oysters are genuine first-quality Blue Points:

Barrel	$10 00
Half barrel	5 25

He also puts up and ships to any part of the country in quantities of 10 pounds or more, at the rate of 5 pfennigs, or about 1½ cents, per oyster. A barrel of Blue Points, 1,500 to the barrel, delivered at your door, in Bremen or Hamburg, costs not over $10.25, all charges included, but outside of the free cities the cost is more than double, because of the duty added. The same barrel which costs but $10.25 in Bremen will cost $26.25 if landed at my house in Annaberg, freight, truckage, and duty included. It is thus apparent that in Germany, outside of the free cities, only the favored few can afford to eat American oysters, or, as a matter of fact, any other kinds. Not long ago I read in some newspaper an article urging American dealers to go extensively into the exportation of oysters to Germany. My advice to them is Punch's, "Don't."

GEORGE B. GOODWIN,
Consul.

UNITED STATES CONSULATE,
Annaberg, Saxony, December 11, 1886.

THE WINE HARVEST OF FRANCE FOR 1886.

REPORT OF CONSUL ROOSEVELT.

From the annual report of the minister of finance recently published, I am enabled to obtain interesting information concerning the yield of wine in the several departments of France. The total yield produced 25,063,345 hectoliters, a decrease of 3,472,806 hectoliters on the production of the preceding year, and nearly 11,500,000 hectoliters less than the average of the last ten years. The average yield amounted to 36,679,000, as will be seen by the following:

Years.	Hectoliters.	Years.	Hectoliters.
1876	41, 847, 000	1881	24, 139, 000
1877	56, 405, 000	1882	30, 886, 000
1878	48, 729, 000	1883	36, 029, 000
1879	25, 770, 000	1884	24, 781, 000
1880	29, 667, 000	1885	28, 536, 000

PREJUDICIAL CAUSES.

The atmospheric disturbances which prevailed during the budding and maturing of the grapes greatly contributed toward the unsatisfactory result of the yield. Fatal effects from rain, frost, and hail are reported from nearly all the departments excepting those of the southern region. Those showing the greatest decrease in production are: Ain, Allier, Aube, Cher, Côté d'Or, Doubs, Indre, Indre-et-Loire, Jura, Loire, et-Cher, Haute-Loire, Loiret, Main-et-Loire, Meurthe-et-Moselle, Meuse-Nievre, Puy-de-Dôme, Rhone, Saone-et-Loire, Sarthe, Vienne, and Yonne,

PHYLLOXERA AND MILDEW.

The causes mentioned as affecting unfavorably the yield have been accentuated by the continual development of the phylloxera and mildew, two plagues that for several years have been steadily devastating the vineyards of France. The mildew is rapidly increasing everywhere. During the past year it appeared in two forms, the mildew proper, or that which attacks the leaf, and the peronospora, or that which attacks the grapes, drying the young fruit, and thereby preventing maturity. The following departments suffered from its ravages: Corrège, Doubs, Indre, Loire-et-Cher, Haute-Loire, Loire-Inférieure, Lozère, Main-et-Loire, Sarthe, Deux Sevres, Tarn, and Haute-Vienne. Many well known and several new insecticides for the extermination of these plagues have been tried. As far as applied, the most successful this season is the invention and property of an American, Rev. Walter T. Griffin, of Brooklyn, N. Y., who has invented an ingeniously-constructed machine so fitted and arranged as to apply and distribute the curative powder or liquid directly to the vines. Attached to the rear of the machine are two soft sweepers, held by flexible springs, which by the rotation of the wheels move in such manner as to completely sweep all clinging insects from the vines, and without injury to the plant remove the bark where the winter egg is deposited, and at the same time distribute the insecticide directly on the spot where the egg is found.

The winter egg or embryo state of phylloxera, always deposited under the bark of wood over one year old, is the foe to be destroyed by the

vine-growers of France, as this minute object, hardly observable by the naked eye, is capable, according to the carefully ascertained figures of M. Valery-Mayet, professor in the school of agriculture at Montpellier, in France, of producing one female gallicola which by the end of May has laid 500 eggs, which hatch out immediately, and by the end of June these have increased to 250,000. If calculated to the fourth generation, the enormous number of 62,500,000,000 is produced. They have five and sometimes six generations a year. It is clearly perceivable that almost incalculable damage accrues from the deposit on the vine of one winter egg. Mr. Griffin is at this moment vigorously engaged in fighting this pest. His efforts have been singularly rewarded by most gratifying results, and he has several flattering certificates from influential vine-growers of the Médoc attesting to the effective value of his treatment.

QUALITY OF THE WINE.

The quality of the wine of 1886 is mediocre, and poor in alcoholic property. The viticulturists have endeavored to remedy these defects by free sugaring. During the first ten months of 1885, 6,031,000 kilograms, or 12,062,000 pounds, of sugar were employed in sugaring wines. For the same period of 1886, the quantity employed increased to 27,410,000 kilograms, or 54,820,000 pounds.

IMPORTATION OF FOREIGN WINES.

In presence of the deficit in the yield, foreign wines are more than ever resorted to. For the first eleven months of 1885, 6,831,000 hectoliters of foreign wines were imported into France, and for the correspond ing period of 1886, 9,438,000 hectoliters. Spain, as usual being the largest contributor, sent during this period 5,187,000 hectoliters, and Italy following with 1,697,000 hectoliters. Importations were also from Algiers and other wine-producing countries.

WINE FROM DREGS AND DRIED GRAPES.

The decrease in the production has given stimulus to another industry, the fabrication of wine from dried grapes, and from the residuum of pressed grapes by the process of sugaring. The total quantity of this fabrication for the year 1886 amounted to 5,500,000 hectoliters, an increase of 1,533,000 hectoliters over the production from the same source in 1885. During the past year 2,688,000 hectoliters of wine were obtained from the dregs of pressed grapes, and 2,812,000 hectoliters from dried grapes.

As the vineyards of France depreciate those of Algiers increase in value. The production and cultivation of the vine in the different provinces of that country steadily increases, and the yield for 1886 shows an increase of 550,984 hectoliters. The total production was 1,569,284 hectoliters. Number of hectares planted in vines during the year 1886, as follows:

Provinces.	Area planted.	Production of wine.
	Hectares.	*Hectoliters.*
Alger	24,422	624,347
Constantine	19,130	385,556
Oran	26,114	559,381
Total	69,666	1,569,284

Algiers sent to France during the first eleven months of 1886, 398,000 hectoliters of wine. The following gives the yield in the departments of the west and south of France:

Gironde.—Yield of 1886, 1,108,685 hectoliters, an increase of 32,629 hectoliters on that of 1885. Number of hectares planted in vines 141,897 against 139,457 in 1885.

The annual production of the Gironde since 1875 has been as follows:

Years.	Hectoliters.	Years.	Hectoliters.
1875	5,279,410	1881	1,276,000
1876	1,961,045	1882	1,114,000
1877	3,511,094	1883	1,867,559
1878	2,210,114	1884	1,338,183
1879	1,567,506	1885	1,076,056
1880	1,660,235	1886	1,108,685

Charente-Inférieure—Yield of 1886, 698,802 hectoliters; increase of 89,650 on that of 1885, which was 609,152 hectoliters. Average yield of the last ten years, 2,261,784 hectoliters; number of hectares planted in 1886, 51,604; hectares planted in 1885, 59,217.

Charente.—Yield of 1886, 75,412 hectoliters; decrease of 37,278 on that of 1885, which was 112,690 hectoliters. Hectares planted in 1886, 23,457; in 1885, 26,023. Average yield during the last ten years, 1,019,848 hectoliters.

Dordogne.—Yield of 1886, 125,155 hectoliters; decrease of 42,541 hectoliters on that of 1885, which was 167,696 hectoliters. Hectares planted in 1886, 59,953; in 1885, 64,200. Average yield for the last ten years, 442,455 hectoliters.

Gers.—Yield of 1886, 733,865 hectoliters; increase of 290,284 on that of 1885, which was 443,581 hectoliters. Hectares planted in 1886, 133,591; in 1885, 131,979. Average yield for the last ten years, 1,192,354 hectoliters.

Lot-et-Garonne.—Yield of 1886, 363,753 hectoliters; increase of 20,731 on that of 1885, which was 343,022 hectoliters. Hectares planted in 1886, 65,525; in 1885, 66,642. Average yield of the last ten years, 603,155 hectoliters.

Landes.—Yield of 1886, 56,660 hectoliters; increase of 4,531 on that of 1885, which was 52,129 hectoliters. Hectares planted in 1886, 20,594; in 1885, 20,439. Average yield of the last ten years, 269,740 hectoliters.

Basses-Pyrénées.—Yield of 1886, 55,291 hectoliters; increase of 13,072 hectoliters on that of 1885, which was 42,219. Hectares planted in 1886, 20,859; in 1885, 21,297. Average yield for the last ten years, 139,916 hectoliters.

Hautes-Pyrénées.—Yield of 1886, 73,446 hectoliters; increase of 32,528 on that of 1885, which was 40,918 hectoliters. Hectares planted in 1886, 16,382; in 1885, 16,255. Average yield of last ten years, 187,845 hectoliters.

GEO. W. ROOSEVELT,
Consul.

UNITED STATES CONSULATE,
Bordeaux, France, January 6, 1887.

On the same subject Consul Mason writes:

In the South of France, where the ravages of the phylloxera first became serious, and where the restoration of devastated vineyards by planting American vines was first begun, the product of the past year has been larger and of better quality than in the central and northern districts. Of the five departments in France which have grown the largest quantities of wine during the season of 1886, three are in the consular district of Marseilles, viz, Hérault, with 2,995,126 hectoliters; Aude, with 2,372,910 hectoliters and the Pyrénées Orientales, with 1,175,209 hectoliters. There are in these departments, particularly in the Hérault, many vineyards of American vines, four and five years of age, which have yielded extraordinary results, both as to the quantity and quality of wine produced. Never before have the advantages of that method of restoration and protection against phylloxera been so clearly demonstrated as during the past season. Many, even intelligent, wine-growers, who have persistently doubted the permanence of this remedy, have now become convinced, and it seems to be only a matter of a few years when most of the former wine-growing lands of Southern France, which have latterly been devoted to grain and root crops, will be restored to the far more lucrative growth of wine, which at the present prices for wine of even ordinary qualities yields enormous profits. * * * American grape vines, judiciously chosen with reference to soil and situation, and carefully cultivated, yield in many instances larger crops than the native vines formerly produced on the same ground, so that, with the vigorous replanting that is now being practiced, it is confidently hoped that the vintages of France will rapidly and surely increase until they reach the proportions of those gathered prior to 1878. (Marseilles, December 29, 1886.)

The London Economist, January 1, 1887, says:

Growers have endeavored to combat these scourges (phylloxera and mildew) by planting their vineyards with American vines; but the introduction of the new stocks has led to the acclimatization of a new malady, the black rot, which has appeared in some districts of the department of the Hérault.

From the same source may be quoted the following:

The number of establishments for the sale of wines and spirits has increased enormously of late years. In 1869, deductions being made for Alsace and Lorraine, it was 365,875, and down to 1880, when the number was 356,863, there was a decrease. But in the latter year the law of 1851, requiring an authorization for the opening of a drink shop, was abolished, and at the end of 1885 the number had increased to 395,703, exclusive of 26,600 in Paris. The greatest number is in the north of France.

THE MANUFACTURE OF WHITE LEAD IN BELGIUM.

REPORT OF CONSUL ROBERTSON.

This industry, which, so far as any recent times are concerned, is said to have been "born" in Holland, was introduced into Belgium from the former country about the year 1815, or at the time of the annexation of Belgium to Holland. The industry increased quite rapidly, relatively speaking, of course, so that in 1830, when this branch of manufacture was still but little known in France, there were three or four such works in Belgium. As to their importance or capacity, however, it is impossible to give any data.

PROCESS FIRST EMPLOYED.

It is an error to suppose that the discovery of this substance is even of comparatively recent date, for the artificial carbonate of lead was known to the Greeks and Romans. The ancients obtained it by means of the action of vinegar on lead exposed to the air. The Dutch were the first to take up, follow out, and improve on the methods of the ancients.

Nowadays it is known as the Dutch process, and is to this day the one most generally employed, and the one which gives the best results and the most superior quality for the product. Besides the Dutch method, however, there are the German, French, and English. Taking them in order, we will first consider the Dutch, and give a description of the processes employed.

THE DUTCH METHOD.

Double-refined lead of the best quality and absolutely free from all foreign substances, such as iron, copper, zinc, &c., is run into plates or strips about 2 feet long by 4¾ inches wide. These strips are then twisted into spirals and placed vertically into small earthen pots, made in such a manner as to prevent the strips reaching or touching the bottom. Into each pot is poured a certain quantity of vinegar. They are then placed in superposed layers, between beds or layers of manure and tan-bark, in such a manner as to form parallel heaps 13 to 16 feet long and 19 to 22 feet high. Often these heaps are sunk into the ground to the depth of a meter (40 inches). Three sides of this heap are protected or maintained by solid walls of masonry, while the fourth is left open for the charging and discharging. First, a layer of manure having already served is placed on the bottom to the depth of about 1 foot. Upon this are placed the pots nearly full of vinegar; they are then covered with sheets of lead, and over these are placed thick planks of wood. On these planks is then placed a layer of fresh manure. For this layer *only* horse manure is used; it has a thickness or depth of about 16 inches. On this is placed another series of pots, and so on until the pile has the required height or number. Each layer or section consists of from 1,000 to 1,200 pots, and between the pots and the side walls, or masonry, a layer of about a foot of manure is placed. A number of little holes or chimneys are made or left in the heap, to insure a free circulation of air. This latter point is a very important one.

The operation is completed in from 4 to 6 weeks, for one must not lose sight of the fact that under the influence of the fermentation of the manure caloric is formed, which provokes the volatilization of acetic acid, and of this acid the third necessary agent is oxygen.

The beds or heaps are now uncovered, and the lead, in great part carbonized, is taken out to be submitted to manipulation, the object of which is to detach, wash, grind, and dry the "*céruse*," or white lead.

Nowadays the greater part of these operations is performed mechanically in vast sheds, well ventilated, but in spite of this, from a hygienic point of view, all these operations are more or less dangerous, for which, however, the carelessness and heedlessness of the workmen are said to be largely to blame.

PRECAUTIONS WHICH SHOULD BE TAKEN.

The men should never work except in a blouse, used only for this purpose; the face, or at least the respiratory organs, should be protected by a wet sponge. When meal-time comes they should take off their blouses, and carefully wash the hands, head, and face. With these simple precautions they would avoid absorbing with their food the fine particles, which could easily fall into it from their clothes, hair, &c. A little iodine of potassium each week and the frequent usage of milk and eggs are the best palliatives against this dangerous work.

THE GERMAN METHOD.

Lead perfectly pure is run into strips, bent double in the middle, and suspended on slats in cases or chambers in such a manner that their edges do not touch each other or the sides of the chamber. In this chamber is a mixture of vinegar, or grape juice, or mesh, artificially heated. The temperature is regulated as follows: The first week 76°. the second week 100°, the third week 114°, and the fourth week 124° Fahr. The heat volatilizes the acetic acid at the same time that the fermentation of the liquor develops the carbonic acid.

This process has enjoyed a great reputation in Austria for the extraordinary beauty and whiteness of the *cérusc* resulting from it, which was called "*blanc de Krems.*" To-day in Germany all the white lead is made without the use of manure, but the carbonic acid is obtained by the combustion of coke or chalk. The upper part of the chamber is furnished with a chimney, so constructed as to draw the carbonic and acetic acid under the sheets of lead. There are some of these chambers which work as high as 30,000 kilos of lead at one time. The white lead obtained in this manner is, however, considered to be very inferior to that made by the Dutch process.

FRENCH METHOD.

This process is also very old, having been known at least as early as the year 1809. It is said to be little, if any, employed, however, except in the works in Clichy, near Paris. It consists in dissolving litharge in acetic acid, in order to obtain a solution of acetate of lead or extract of saturn. In causing to pass through this solution a current of carbonic acid gas there ensues a formation of *céruse* (white lead), and at the same time acetic acid is set free. This latter reacts on the litharge, and transforms it into new quantities of acetate of lead; these are decomposed in their turn by the carbonic-acid gas, and this is continued until the complete transformation of the litharge into white lead. This is washed, dried, and packed like the Dutch product.

ENGLISH METHOD.

The lead is melted in vessels, from which it runs onto the bottom of a reverberatory furnace, which continually receives a current of air from a bellows; the lead spreads and divides itself, thus offering a large surface to the air, and runs into a trench, the side walls of which are pierced by small holes through which the litharge passes.

This litharge, finely pulverized, is wet with a solution, in water, of 1 per cent. of its (the litharge) weight of acetate of lead, and introduced into wooden vessels, closed outwardly but communicating between each other. Burning coke in a reverberatory furnace, a current of impure carbonic-acid gas is made to pass through the litharge. The bellows, already mentioned, suffices to force the current of gas clear to the litharge. Rakes run by steam continually agitate the oxide, which favors the combination with the carbonic acid.

EARLY PRODUCTION.

There are no reliable data available as to the exact amount produced in the early part of this century, but it is safe to assert that this production was very limited.

PRESENT PRODUCTION.

The present annual production is given as follows:

	Tons.
Belgium	4,000
France	8,000
Germany	7,000
England	4,000
Holland	7,000
Total	30,000

The principal consumers are the United States, India, Italy, Greece, Spain, and Mexico; but I am unable to obtain the figures.

England is said to import large quantities of French and German white lead, which she treats with her own product before selling.

Belgium exports about 1,000 tons per annum to France, but very little to other countries, Holland and Germany having practically the monopoly for the direct exportations.

IN WHAT FORM SOLD.

In former times the manufacturers of white lead were in the habit of selling their product in the form of a very dry powder, each large consumer mixing it with oil as required. Now, however, it is sold in the proportion of about two-thirds powder and one-third in cakes already mixed with oil. This large proportion in the powdered form is explained by the fact that France, which is Belgium's principal customer, admits the "*céruse*" in a powdered form free of duty, whereas mixed with oil it pays a duty of 4 francs per 100 kilos (80 cents per 200 pounds). In addition, those who wish to add to their profits by mixing the white lead with sulphate of course buy it in its powdered form.

France and Holland furnish most of their white lead in the form of cakes already mixed with oil, this mixing being done mechanically and in very large quantities. This is a great boon to the painters, the grinding by hand being very unhealthy and dangerous.

The names by which white lead has been known have been pretty much the same from the earliest times. It has been called, "*blanc de plomb*," "*carbonate de plomb*," "*céruse*," "*blanc d'argent*," "*blanc de Holland*," &c. To-day it is known in this market by the one name, viz, "*céruse*."

RAW MATERIALS.

For a long time Belgium furnished her own lead ore, but her lead mines are now all exhausted, and are either closed altogether, and abandoned, or produce zinc only. (Her production of zinc ore is also practically at an end. See my report on zinc ores, Consular Reports, No. 69, October, 1886, p. 194). There is now, I am told, only one lead-smelting work in Belgium, and this one obtains its lead ores from Algeria, Spain, France, and Sardinia.

France still produces some lead ore, and in the Rhine provinces of Germany there are several lead mines and foundries. Belgium buys her lead of these latter works, and pays, or did pay at the end of 1886, 34 francs ($6.80) per 100 kilos (200 lbs.). During the last five years the price of this mineral has fluctuated between 28 and 32 francs. For 1887 it is offered at 34 francs, but I am informed that this price will not be accepted.

The lead from which white lead is to be made must be of the first quality, double refined, and absolutely free from all foreign substances, such as iron, copper, zinc, or antimony, which, if present, would impart a grayish or yellowish shade to the white lead. Lead from silver ore containing lead would be as good as any other, but this point does not concern the white-lead manufacturers, who never make their own lead, but buy it as above described, and under the commercial style of "soft lead doubly refined," (*plomb doux, double raffiné.*) In order to manufacture white lead under favorable conditions, the works should be situated in a country where the raw material can be obtained cheaply, and in the vicinity of a large city to have an abundance of manure available. To obtain the acetic acid is always easy enough, as it can be distilled from the wood of any forest.

WAGES, ETC.

A few more words in relation to the processes generally employed. This will make the question of labor more intelligible. The lead, under the influence of the fermentation in the manure, transforms itself into scales. The scraping of these scales from the plates of metal gives rise to poisonous emanations and was formerly very injurious to the health of the workmen. Now, however, it is done under water, and is therefore no longer dangerous. The scraping terminated, these scales are ground by means of wet grindstones, and the resulting paste (*pâte*) is dried at a temperature of about 104°, ground or pulverized and sifted to an impalpable powder. Although this pulverizing and sifting is done in a dry state it is in machines tightly closed and is not therefore accompanied with any bad consequence so far as the workmen are concerned. The packing, however, which is next in order, is more dangerous, as the workman is brought into actual contact with the white lead. He is therefore provided with a mask or wet sponge on the face to prevent his inhaling any of the powder. The buildings are also furnished with ventilators which change the air and drive the poisonous vapors up into the lofts.

It is very difficult to give the exact proportion of labor in the cost of a given quantity of the article we are considering, but the following facts are, I think, all that an expert would require to enable him to form a very fair estimate on the subject.

Those who build up and dismount the beds (containing the pots of lead, vinegar, &c.), are paid by the job, and earn on an average about 60 cents per day of ten hours; the scrapers and first, or wet grinders, about 50 cents; those employed in the pulverizing mills, 55 cents; and the packers 70 cents per day.

Four men will "mount" or build up a bed containing 1,500 kilos (3,000 pounds) of lead, and dismount the adjoining bed containing an equal weight of lead carbonized, which they separate into the scales ready for grinding and into old lead to be again submitted to the fermentation. Those attached to the wet mills produce per man about 1,200 kilos (2,400 pounds) of paste to be dried. Finally two very ordinary workmen can dry, grind, or pulverize, and sift 2,000 kilos (2 tons).

I understand the above to constitute a day's work.

The packing is done by the job at 15 centimes (3 cents) per 100 kilos (200 pounds).

At the end of the regular day's work, after the powder has become a little cooled, the whole force is put on to this latter job.

	Per 200 pounds.
The labor is estimated at	$0 40
The barreling	20
Sundry expenses	20
Manure and acids	60
Total	1 40

In addition the "*céruse*" gives 10 to 12 per cent. of lead to be transformed into acetate and carbonate, the manure is afterwards sold for agricultural purposes, and there are also sulphates of baryta, and the scraps are worked up into minium or red lead. In a manufactory running regularly this last is said to be one of the most prosperous branches of the work.

IS AMERICAN WHITE LEAD KNOWN HERE, ETC.?

From all I have been able to learn I will say that I do not think the American article is known here. I have the authority of the customs officers in Antwerp for saying that *no* American white lead was entered at that port during the past year, and it is unknown to the editor of the chief commercial paper in this province, who was also only a year or two ago president of the chamber of commerce of Liege. As to the best means of making the article known here, there are two: First, to send samples, with prices and conditions of sale, to the commercial museum recently opened here, and which I have already referred to in a previous dispatch, and, second, to send samples to Mr. Max Goebel, the gentleman above referred to as editor, &c. Mr. Goebel has extensive business relations, and would, if any one would, be able to introduce the American article. Mr. Goebel is also president of the committee having the management of the museum above mentioned.

CUSTOMS DUTY.

Neither the raw material (lead) from which white lead is made, nor the white lead itself, pays any duty in Belgium.

G. D. ROBERTSON,
Consul.

UNITED STATES CONSULATE,
Verviers and Liege, January 22, 1887.

THE MANUFACTURE OF WHITE LEAD IN THE NETHERLANDS

REPORT OF VICE-CONSUL VISSER.

The time when the manufacture of white lead was first introduced into the Netherlands is not definitely known, but it is generally held that this branch of industry has existed here about three hundred years.

The first method employed was the so-called Dutch process, which consists in burying earthen pots containing lead and acetic acid in beds of straw and stable litter. This process is still followed at the present time by the Dutch manufacturers, though there are a few who obtain their white lead partly in another way, such as by casting the lead

into sheets and suspending those in heated rooms, filled with the vapors of acetic acid and carbon dioxide, or by a precipitation process.

An estimate of the annual production in early times cannot be given, as no such statistical information can be obtained. As to the present annual production, I can only say that, as far as I have been able to learn, about 4,000 tons are manufactured annually by the eight white lead manufactories existing in the Netherlands.

The Dutch white lead finds almost exclusively its way into the home markets; only a small portion of the manufactured quantity is exported.

The manufacturers sell their product in the dry state, ground into powder, and do not grind the whole or any part of it in oil. Formerly the white lead was adulterated with lime, ground flints, heavy spar, baryte, &c.; but at the present time this does not happen any more. There are, however, manufacturers who mix the Dutch white lead with that of Belgian or German origin, which is lighter and of inferior quality but cheaper than the home product. This cannot be called adulteration, as the substances that are added are of the same manufacture, though of inferior quality.

White lead was known by the same names formerly as it is now, such as *Ceruse de Hollande*, *Blanc du plomb*. Krems white, flake white, and Venice white do not refer to the article manufactured from lead, but to that obtained from zinc.

The raw material (lead) used in the manufacture of white lead was formerly imported from Spain and England, but lately exclusively from Germany, where it is obtained from the lead-ore mines, which ore contains a very small percentage of silver.

The price of the lead has varied in the last ten years from 13 to 25 guilders ($5.20 to $10) per 100 kilograms; at present it is 16.50 francs ($6.60).

The customs laws of the Netherlands do not impose any import duties either upon the lead or upon the white lead when manufactured.

I have not succeeded in obtaining information as to the product per laborer and cost of labor per unit of quantity. I have, however, ascertained that 125 to 140 kilograms of white lead are obtained from 100 kilograms of lead; the result depends entirely upon the quality of the lead which is used; further, that the average weekly pay for laborers in these manufactories amounts to 12 guilders ($4.80). These are comparatively high wages, but the dangers of ruined health and of an early death, to which these laborers are subject, must not be considered as being very small.

As already stated, the Dutch white lead is of superior quality to the German and Belgian, and it is therefore given the preference when substantial results are required, even if the price of the foreign product is lower; but in many cases where it is but the question to have as much as possible done for the least amount of money, the German or Belgian white lead is used, with or without a portion of the Dutch manufacture mixed up with it.

Germany and Belgium are the only countries exporting white lead to the Netherlands, as there is there more manufactured than consumed, and they successfully compete on account of the lower wages, and of their ability to obtain the raw material at cheaper prices than the Dutch manufacturers are able to.

As to the possibility of introducing the American white lead in this market, I should say this depends entirely upon the manufacturers in the United States. If they succeed in manufacturing the same quality of white lead through any other system—electricity, for illustration—and

offer their product in this market at prices not above those of the Dutch manufacturers (at the present time $9 per 100 kilograms), the enterprise should certainly prove successful.

JOHN VISSER,
Vice-Consul.

UNITED STATES CONSULATE,
Rotterdam, December 18, 1886.

WHITE LEAD IN GERMANY.

REPORT OF CONSUL-GENERAL RAINE.

SOURCE OF RAW MATERIAL.

German mines produced lead ores as follows:

Years.	Tons.	Value.	Works in operation.		Hands employed.
1879	149,100	$17,843,000	[65]	114	17,692
1883	169,800	18,091,000	[55]	127	18,166
1884	162,800	15,740,000	[50]	130	17,514
1885	158,089	35,000,000			

Of lead were in 1885 manufactured 72,945 tons, at a value of likewise 35,000,000 marks. Those works in which the respective product is obtained only as a secondary product are given in bracketed figures on the left side of the column.

Lead and copper ores were in 1885 imported and exported in 100 kilograms (=2.2 cwts.), as follows:

From or to—	Imported.	Exported.
Belgium	158,723	5,450
France	32,562	1,026
Great Britain	5,499	
Netherlands	51,246	347
Austria	23,368	4,930
Spain	17,962	
Peru	3,786	
United States of America	4,164	
Australia	4,254	
Other countries	5,219	288

I learn that Germany produces about as much lead as it needs. Consumption of lead in 1884 amounts to 46,978 tons, equal to 1.02 kilograms per capita of German population.

The chief sources of lead within Germany are the mines near Freiberg, in the Kingdom of Saxony, but the paramount lead producers are in the Hartz Mountains, near Goslar and Halberstadt. The general production in the latter places is approximately estimated at about 60,000 cwts. per year.

Average prices of lead per 100 *kilograms* (2.2 *cwts.*).

Cities.	1879.	1882.	1883.	1884.	1885.	1886.
Berlin	$7 30	$7 10	$6 40	$5 50	$5 20	$6 85
Halberstadt	.....	6 40	5 70	4 90	5 40	5 90
Cologne	7 00	6 70	5 90	5 10	5 80	6 11

Refined, soft, at the works of Halberstadt. Double-refined soft at Cologne. The prices which had since 1873 uninterruptedly followed a lowering tendency, experienced a slight improvement in 1885. At present the price per 100 kilograms (=2.2 cwts.) is at Berlin $6.35.

Duty on lead is not collected. It is a striking feature of the German customs tariff to exempt from duty all raw material which is produced either not at all or only to an insufficient extent. Most of lead is extracted from galena or sulphuret of lead.

Data as to wages of labor, product per laborer, and cost of labor per unit of quantity, cannot be furnished, in the first place for the reason that lead mines are not within my reach, and, secondly, as such information is partly of a nature constituting business secrets, which would not be disclosed even to the German Government or to factory superintendents. Moreover, German manufacturers were cautioned last year by a semi-official article in the press against giving such information, especially to foreign consuls.

HISTORY.

The manufacture of white lead, properly termed carbonate of lead, or cerusite, was already known to the Germans centuries ago, and no definite date could be ascertained of its first introduction.

The oldest method of manufacturing white lead is even nowadays quite generally in use. This manufacture consists in exposing metallic lead in a heated room to the combined action of air (rich in carbonic acid) and of acetic-acid fumes. This manner of obtaining white lead finds application in several variations, so that three different methods can be distinguished according to the action of hot atmospheric air, or of fumes from carbonic or acetic acid, under which white lead is obtained from lead.

The Dutch method, so called because first and chiefly employed in Holland, where it formerly flourished, has successively been adopted in other countries—for instance, in Northern Germany, England, France, &c. In Austria and South Germany the so-called Austrian or German mode is employed.

Though there is a very old and a modern method of manufacturing white lead, they operate both, in spite of their great difference in appearance, fundamentally in quite the same way. The essential point in either case is the exposure of metallic lead, or oxide of lead, to the action of vinegar and carbonic acid. Under the action of acetic acid, the oxygen of the air oxidizes, first, the metal, whereupon the oxide of it dissolves in the acid, while soon afterwards the carbonic acid again decomposes this solution to unite them with the oxide. Carbonic acid here accomplishes a task which it, as a rule, is not able to do by itself, as the decomposition of a metallic salt solution is founded on the capability of the lead to form so-called basic salts. To have this effect it is essential that the basic acetate of lead dissolve in water. Other basic lead compounds are insoluble therein. If, namely, acetic acid is fully saturated with oxide of lead, the dissolving process is not at rest; an additional quantity of oxide enters the solution, and it is this very portion, carried, so to say, as "over-freight" by the acetic acid, which can follow the train of entering carbonic acid, and with the latter again separate as white lead. After such separation only a neutral lead solution remains as residue, which anew can dissolve a quantity of oxide and deliver same to the carbonic acid, and so on in unlimited repetitions, and this always by means of one and the same quantity of acetic acid. Con-

cerning the more economical way of manufacture, the following may be set forth:

If the solution of a lead salt (for instance, lead sugar, acetate of lead) and the solution of a carbonic acid salt (for instance, soda) are poured together, white lead is separated, while a newly-formed salt (in the case point, acetate of lime) remains in solution.

But a proper and reasonable manufacturing would work more economically in striving to prevent that no second salt remains as residue or refuse. According to the Austrian or German method of manufacturing white lead, I learn the following:

AUSTRIAN METHOD.

The thin rough sheets of lead (such as are formed by pouring lead upon a stone plate) are in the middle folded so that they look like a pointed roof, and are hung over laths, and with these put into trough-like pitched wood boxes so as not to touch each other. The bottom of each box, 6 to 8 centimeters in height, is covered with a mixture of husks of pressed grapes, vinegar, or carbonate of potassium. The lead sheets are suspended above this mass without touching each other. The troughs being full are closed by paper being pasted over them, and in numbers of from 80 to 100 placed into heated rooms built of bricks. These rooms are to be kept at a temperature of from 30 to 40 degrees Celsius without admitting air. Within three weeks at the latest the formation of white lead is completed.

This method is in use in the principal works of Corinthia (Austria) and furnished a very beautiful article. Its beauty is chiefly due to the purity of the lead there obtainable. The finest and hardest sort has the name of "*Kremser Weiss.*" To prepare finer sorts the white lead must be separated from its admixtures. It is therefore subjected to a washing process, which does this work more fully, and in a manner less obnoxious to health than the sifting process; for the white lead, separated from the lead sheets and then ground, continues to contain small particles of metallic lead, which would impair the color, but can be removed entirely only by washing. By more or less continuing the washing process, sorts of different degrees of fineness are obtained.

PRODUCTION—MARKETING.

No estimates as to the annual production at the beginning of this century, nor at the present time, can be given for want of statistics.

The difference between exports and imports may be regarded as used for home consumption. Unfortunately, even the most minute German statistics mention white lead in one and the same item with white zinc.

Imports of both together amounted in 1885 to 32,352,100 kilograms =2.2 cwts.; exports, to 163,330.

Exports of white lead in 1855.

Destination.	Quantity.	Destination.	Quantity.
	100 *kilos.*		100 *kilos.*
Via Hamburg-Altona	23,995	To Austria	3,993
To Belgium	6,525	To Russia	6,396
To Denmark	4,250	To Sweden	9,574
To France	1,737	To Switzerland	2,670
To Great Britain	71,065	To Spain	3,218
To Italy	2,534	To United States	4,454
To Netherlands	12,315	To other countries	5,742
To Norway	4,762		

Germany imported in 1885 of white lead and white zinc as follows:

Whence.	Quantity.	Whence.	Quantity.
	100 *kilos.*		100 *kilos.*
Via Hamburg	5,521	From Netherlands	2,756
From Belgium	8,075	From Austria	14,120
From France	978	From other countries	902

Immediate transportation of white lead and white zinc in transitu.

From or to—	Imported.	Exported.
	100 *kilos.*	100 *kilos.*
Belgium	235	70
Denmark	1	290
France	179	207
Netherlands	60	.....
Austria-Hungary	1,437	186
Russia	59	309
Sweden	.....	82
Switzerland	115	472
Other countries	1	37
Bremen	1	371
Hamburg-Altona	659	723
Total	2,747	2,747

The white lead obtained is only to a small extent placed upon the market in the original form of hard slates as white flake (*Schieferweiss*), but is, to a greater extent, further worked by grinding same after being mixed with water, between granitic stones, and by pouring the emulsion into small unglazed pots, in which the same within a few days assumes such a consistency that the conical loaves can be taken out to be finally dried entirely in the open air or in a drying-room.

Ordinary sorts receive through this operation their unavoidable mixture of sulphate of lead, heavy spar (barytes), and chalk.

The article thus obtained is hard, almost stony, which makes its reduction to powder or levigation, and its combination with the required other substances, very laborious work.

But consumers used to regard hardness as a sign of genuineness, and therefore prefer such articles to others offered them in the form of white powder. Much white lead appears, however, of late in the market triturated with oil (paste).

ADULTERATION.

White lead is frequently adulterated with an admixture of blanc fixe, which is not easily perceptible from its external appearance, since sulphate of barium is very white, and likewise has a specific gravity.

In commerce, some sorts occur which contain up to three-fourths of sulphate of barium and only one-fourth of white lead. This adulteration can be ascertained by pouring over it a test of rarefied nitric acid, in which pure white lead entirely dissolves, while sulphate of barium remains as residue.

The mixtures of white lead with blanc fixe occurring in trade bear usually definite names.

White of Venice is a mixture in equal shares of white lead and blanc fixe.

White of Hamburg is a like mixture of one-third white lead and two-thirds of blanc fixe; Dutch white of one-fourth white lead and three-fourths blanc fixe.

But white lead is very rarely adulterated with chalk, gypsum, pulverized barytes, kaoline (China clay), and the like, as by such admixture it loses its good appearance.

Other names, under which white lead is known, are "Krems White," "Kremser White," "Kremnitzer Schiefer White," "Flake White," "Painter's White," "Silver White," &c.

Hamburg being the chief importing place of white lead, Consul Lang has, at my request, kindly furnished the following information from leading dealers:

UNITED STATES CONSULATE,
Hamburg, December 16, 1886.

In reply to your favor of yesterday I herewith advise you that of white lead coming from the United States, some samples excepted, no larger importation is known to me. The samples of white lead from the United States which I have seen are not as white and fine as the article furnished by German manufacturers; but the principal objection to the samples from the United States appears to be that they do not equal the German, Dutch, and Belgian product in coating power. This is most likely attributable to the rapid process of manufacture in America, which partly is also practiced here. Of white zinc, however, several lots have appeared in this market, but, as far as is known to me, were sold at a loss, the article not having that pure white color for which the Silesian and Belgian article is famous. The white lead of lots imported from the United States had a yellowish-gray color and was heavier than the before-mentioned article produced here.

Respectfully,

J. H. A. BRÜGMANN.

Another firm of Hamburg, that of J. D. Flügger, writes:

Whether in the future importation of white lead from the United States is possible depends upon quality and prices.

PRICES.

At Berlin white lead sells at present: First quality of oxide dry, 32 to 33 marks per 100 kilograms net weight; first quality (ground in oil, ready for use), 37 to 38 marks per 100 kilograms net, inclusive of cask, payable at Berlin, with cash discount of 3 per cent.

A leading commission merchant in drugs and colors in Berlin, E. A. Lindner, who makes the sale of white lead a specialty, gives the following firms as the most prominent manufacturers of white lead:

Gustav Dietel, Eisenbach; Schube & Brunnguell, Ohlan, Silesia; Arzberger, Schöpf & Co., Eisenbach; Carl Wilhhelm Voigt, Neumerk, Thuringia; W. A. Hospelt, Ehrenfeld bei Cologne.

From other sources I learn, in addition to the foregoing: Scheller, Homberg v. d. Höhe; Gebrüder Rhodius, Burgbrohl bei Coblentz.

F. RAINE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, December 15, 1886.

WHITE LEAD IN GERMANY.

REPORT OF CONSUL MASON, OF DRESDEN.

The manufacture of white lead was introduced about one hundred years ago. The first process employed in its manufacture was known as the "Dutch process," and this mode was continued for a long period, but recently new modes have been introduced, and the article is now produced entirely, or nearly so, by casting the lead into thin sheets,

which are suspended in a heated room filled with vapors of acetic acid and carbon dioxide. The third process depends upon the precipitation of a plumbic carbonate, and is produced only in the Rhine provinces, in isolated locations, and to a limited extent, as the resulting product fails to impart the brilliancy of color obtained from white lead made in other ways.

The market for these products is principally in Germany, though they are sold by traveling salesmen in France, Russia, Italy, and Austria. White lead is sold both in the dry state and ground in oil. The brand best known is "Krem's white lead," and is a pure oxide of lead, without any foreign substances. The cheaper sorts are mixed and adulterated with minerals, principally with heavy spar (*Schwerpath*). The raw material is best double-refined soft lead. It is sold at 52½ marks per 100 kilograms, or $6.25 per 100 pounds, and about the same price is paid for the lead oxide. The manufacture is so unhealthy that wages are higher than in other employments.

No American white lead is to be found on sale here. I cannot discover that it ever was an article of import, nor can a market be found until we can sell a purer lead at cheaper prices than the Germans. White lead in a dry state is entered free of duty; mixed with any minerals it pays a duty of ⅝ of a cent a pound, and mixed in oil 2½ cents a pound.

JOS. T. MASON,
Consul.

UNITED STATES CONSULATE,
Dresden, January 18, 1887.

TEXTILE INDUSTRY OF BOHEMIA.

REPORT OF COMMERCIAL AGENT HAWES, OF REICHENBERG.

Of the several wealthy countries which constitute the Austro-Hungarian monarchy, Bohemia takes the lead in its manufactures. In traveling up the many fertile valleys, the endless chain of factories command attention.

Not only clustered around cities and villages, but extending into the most remote mountainous district, the tall chimney of the "Fabrik" is always in sight, and the noise of the loom is ubiquitous.

While the returns from this office show that glass-ware is the chief export to the United States, by far the greatest product of manufacture is textile fabrics. Before the high tariff upon cloth went into effect in the United States, much of this article was exported to America; indeed several factories worked for the American trade alone; broadcloth and doeskin forming the chief varieties of this export. It is generally calculated that the annual shipment to the United States was upward of 12,000 pieces, representing a measurement of 360,000 meters and valued at $600,000. To-day the value of this export shipped to America is comparatively insignificant.

In the beginning of the last century, shortly after the close of the thirty years' war, the manufacture of textile fabrics began to show energetic development. Trades unions began to flourish throughout the Kingdom; factories were built.

The Government fostered the industry to a great extent, and some of the principal branches of to-day's great business, sprang into existence. After peace with the French was declared and by the aid of recent inventions, manufactures flourished until toward the middle of the present

century. Bohemian manufactures had been acknowledged at most of the world's great expositions. The industrial part of the population now exceeds the agricultural.

Of all the manufactures of this Kingdom, that of cloth has passed through more vicissitudes and yet has gained for itself a world-wide reputation. The first weaver, who was also the founder of the trades association of Reichenberg cloth manufacturers, was Urban Hoffman, who came here from Silesia, in 1579. The prosperity which attended his venture enticed many of his countrymen to follow his example.

The trades associations have for their members nearly all the weavers of Reichenberg. Their object is, beside the administration of their extensive real property, to guard the interests of their active members and to assist needy ones, widows, and orphans.

Until 1810 the manufacture of cloth was confined to home industry, and indeed to-day on every block you may hear the click of the loom in some domestic establishment. Gradually, however, improved machinery is being introduced; steam-power is being substituted for that of the hand, which will eventually concentrate the industry in the factory.

Until the middle of this century the principal kind of cloth manufactured was plain, and the material was largely imported from Hungary, Silesia, Poland, and Russia. About 1845 the manufacture of fancy woolen goods commenced, the material of which was pure wool from home-bred sheep. The designs at first were poor, and this industry was unable to compete with the manufactures of Brunn. In 1852, however, the master weavers founded a school where the art of weaving was taught, and where samples of novelties from France, Belgium, and England were exhibited. By this means the taste of the workmen became elevated and defined, the result being that by 1860 the production of fancy cloths equaled the plain, the quality had become better, and a large mill had been erected for its manufacture.

The present production of cloth in Reichenberg reaches the handsome amount of 200,000 pieces annually, weighing about 9,000,000 pounds, and measuring about 6,000,000 meters, and worth about $7,000,000.

The principal markets for these goods are, in addition to home consumption, Italy, Turkey and Egypt, Servia, Roumania, and Bulgaria.

LABOR AND WAGES.

The operatives employed in the manufacture of cloth are as follows: Men as spinners, weavers, shearers, pressers, dyers, &c.; boys, between the ages of fourteen and sixteen, as apprentices, and women as carders, wool-pickers and sorters, sewers, &c.

The total number of operatives employed in this branch are 6,000 men, 2,000 women, and 2,000 boys. This number does not include the so-called "accord workmen" who work by the piece, but only those who receive weekly wages.

The working hours at the factories are from 7 a. m. until 7 p. m., during which time one hour is allowed for dinner and one-half hour for early tea, so that in reality the working hours are ten and a half.

The average wages weekly paid are as follows:

Occupation.	Amount.	Occupation.	Amount.
Weavers	$2 80	Warping-girls	$2 00
Fullers	2 80	Carding-girls	2 00
Finishers	3 60	Dyers	2 40
Spinners	3 60	Winding girls and wool-sorters	1 60
Shearers	2 00	Apprentices	1 20

Until about 1840, when cloth-weaving was more of a home industry and the weaver had two to four hand-looms in his house, it was customary to board both journeymen weavers and apprentices, and they were treated as equals in every respect.

Times have changed, however; the journeyman no longer resides with his employer, but has his own home and feeds and clothes himself.

FAMILY LIFE.

As a rule, male operatives marry early, and they generally take their wives from their own class. The married people live in small cottages at a distance from the town.

These houses are of a primitive kind, consisting of one room and kitchen, with a wood-shed. Early the young couple have to leave their home, each perhaps going in a different direction to earn their bread. If there be children they are handed over to some old invalided female operative, who herself has probably smelt the factory for too many years. She looks after the little beings and charges a moderate sum for the service.

The food which such a family will consume daily is about as follows: breakfast of weak coffee, black bread, and butter; a small can of coffee is also taken to the factory to serve either as lunch or dinner; occasionally a visit to a neighboring soup-house may be indulged in, where for 6 to 8 cents a plate of soup or a piece of meat and some vegetable may be obtained; for supper, some fried sausage and potatoes and bread.

Perhaps I cannot better describe the growth of the textile industry in this country than to refer to the firm of Johann Liebieg. The founder of this firm came to Reichenberg in 1826, a poor man of 24 years, a journeyman weaver. To-day the firm is one of the mightiest in the monarchy.

The father Liebieg died in 1870, leaving many millions and an immortal name in the annals of industry.

His merits during his lifetime were rewarded with the title of Austrian baronet. The various establishments which are now conducted by his three sons are as follows: 1 Wept spinning mill containing 15,000 spindles; 1 cotton-spinning mill containing 11,000 spindles; 1 weaving factory containing 800 looms; dressing, dye, and printing works, machine-shops, and gas-works; kindergarten, asylum, and workmen's dwellings are all connected with their factories; 1 cotton-spinning mill at Swacon containing 35,000 spindles; cotton-weaving mill at Swacon containing 600 looms; cotton-mill at Haroclitz containing 19,000 spindles; steam flour-mill, bakery, and gas-works; 1 cotton-spinning mill at Essenbrod with 55,000 spindles; slate and limestone quarries and kiln. Employés numbering 7,200 are supported by this firm, to whom annually there are paid in wages about a half million of dollars; this firm alone consumes 20,000 bales of cotton annually, one-half of which is American and the balance Indian; 5,000 bales of wool are required annually.

Besides a sick and pension club, an establishment for supplying good and nourishing food exists, together with four stores where cheap but good provisions may be obtained. Two kindergartens, one factory-school with four and two with two classes. One Sunday school for drawing, and 62 workmen's cottages, each containing 8 habitations, are included in the "works."

JNO. B. HAWES,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Reichenberg, November 20, 1886.

AMERICAN SLEIGHS AND HAND-SLEDS FOR AUSTRIA.

REPORT OF COMMERCIAL AGENT HAWES, OF REICHENBERG.

While we see in this mountainous district many articles of American production, I am unable to learn that there are any direct importations from the United States.

It has occurred to me, however, that the long and severe winter of this region creates a market for an American specialty. For four months or more everything in the shape of a vehicle, from a coach to a baby-carriage, goes on runners.

The sleighs manufactured here are heavy and clumsy affairs and made generally after one or two patterns.

The first is the substitute for the coach, and has an elevated seat for the driver, with lamps on either side, and seats for four passengers.

They are as open as possible, so that the cold winds have full sweep around one's nether extremities. Even the dashboard consists of network instead of being solid. To compensate for this, passengers dress warmly in fur coats and draw over the limbs fur sacks that reach to the waist.

Another defect of these vehicles is that the runners are not high enough, so that in traveling through deep snow the drifts arise under the box of the sleigh and an upset is almost certain, in which event the sacks adverted to are greatly in the way, and after one such accident one would prefer cold extremities to being rendered so helpless by having the feet confined.

Another feature of the Bohemian sleigh is the break. Every vehicle, even to little carts drawn by dogs, has a break attached, and the sleigh is not an exception. This operates by means of a crank and screw, and drives two irons down into the snow, one by the side of each runner.

The second variety of sleigh is lighter, and holds two passengers, with a seat behind for a coachman. It possesses the other characteristics just described.

I am of the opinion that if two or three American cutters were sent here their handsome appearance and other advantages would soon create a good market for them, but they must have the break attachment and they must be cheap. The pretty colors used by our manufacturers would be a pleasing contrast to the dreary black of the sledges here.

In spite of the plentiful snow here one never sees a decent child's hand-sled. Nothing but plain, home-made, unpainted sleds are made, and although hills and long steep ones are plentiful, coasting is, so to speak, in its infancy. If there had been five hundred American sleds in town I am sure they would all have been sold Christmas week. I would suggest, then, for the consideration of American manufacturers, that here in Bohemia there is a good market for not only American cutters, but also for the juvenile hand-sled in its many varieties. I may remark, in closing, that snow usually appears about the middle of December, and lasts until the middle of April.

JNO. B. HAWES,
Commercial Agent.

UNITED STATES COMMERCIAL AGENT,
Reichenberg, January 13, 1887.

DECLINE IN THE VALUE OF SILVER AND THE COMMERCE OF CHINA.

REPORT OF MINISTER DENBY.

The question whether the decline in the value of silver has been accompanied by a proportionate decline in the tael value of produce is one which has been frequently discussed in China. The accompanying tables, giving the prices for tea and silk during the last ten years, which I take from an able article recently published in the Shanghai North China Daily News, would tend to prove that, making fair allowance for fluctuations in the value of these goods in Europe, the range of price in China since 1876 has been remarkably steady:

In examining into the prices obtained by the Chinese over a series of years, it must be borne in mind that high prices may have been obtained in particular seasons from causes with which the rate of exchange, and to some extent the home demand, had little to do. * * * Again, China silk does not now go to one large market, whose quotations may be taken as the sole guide. * * * There are, however, market influences, and the state of the exchanges between China and Europe and America only affect them to the extent of making some purchases here practicable or not at a particular time.

The London market is the criterion in black tea, the only side influence being the Russian demand, which requires the finest teas, for which prices are paid far above the limits of the London market.

The prices of good 4½ chop Faatlee silk on the 1st of January during the last eleven years have been—

Years.	Taels.	Exchange.	Years.	Taels.	Exchange.
		s. d.			*s. d.*
1876	330	5 7⅛	1882	420	5 2
1877	520	5 7½	1883	370	5 1½
1878	400	5 6½	1884	372½	5 3½
1879	372½	5 0½	1885	307½	4 11½
1880	380	5 2½	1886	360	4 7½
1881	345	5 1½			

Down to the year 1880 the exchange is for credits at 6 months, and since then at 4 months' sight. It is evident that exchange has had no general effect on the market for silk in China.

An examination of the tael price paid for tea at Hankow at the opening of the season for eleven consecutive seasons, leads to the same conclusion:

Years.	Finest to choice.	Common to fair.	Exchange.
	Taels.	*Taels.*	*s. d.*
1876–'77	44 to 47	13 to 18½	5 6½
1877–'78	44 to 48	12 to 14½	5 6
1879–'80	48 to 54	15 to 17	5 0½
1880–'81	42 to 49	12 to 14	5 2½
1881–'82	48 to 52	14 to 16	5 2½
1882–'83	45 to 52	12 to 13	5 2½
1883–'84	48 to 54	12 to 14	5 0½
1884–'85	46 to 50	13 to 15	5 1
1885–'86	44 to 48	14 to 17	4 11½
1886–'87	46 to 50	13 to 16	4 7½
1887–'88	47 to 51	14 to 17	4 7½

During the first five of these years the London prices for common teas ranged from 7*d.* to 8*d.* and 9*d.*, but in the last five the prices have been from 5*d.* to 6*d.* a pound.

The same paper shows that the fall in sterling exchange has not lessened the import trade to China, however much it may have disappointed and at times injured the foreign merchant.

A steady exchange is what is required, the writer remarks; but if that is procured by increasing the cost of imports we cannot but think it will be injurious o the import trade, and probably retard its growth.

CHARLES DENBY.

UNITED STATES LEGATION,
Peking, November 28, 1886.

IRON AND STEEL IMPLEMENTS IN CHINA.

REPORT OF CONSUL HUGHES, OF BIRMINGHAM.

Her Majesty's secretary of state has just sent to the chamber of commerce in this town, for the benefit of manufacturers of agricultural implements, a friendly hint to the effect that vast fields for enterprise in connection with the products of their respective industries, fields by them hitherto unexplored, exist in the far East. Suggestions are also offered with respect to the profits which might be secured by the manufacturers in this town and district by adhering to the models of implements in common use in China.

The opinion is given that these articles could be made in England at less cost, even, than in China, and of equally good quality, and that if consigned to the care of intelligent agents in the Flowery Empire, they would find a ready sale there. Accompanying these hints and suggestions are samples of various tools and implements manufactured and used in China.

An inspection of these articles has already been made by many interested makers, and much has been found to excite the curiosity of local manufacturers here; and to urge them to extend their operations to the supplying of the Chinese market with the products of their own work.

I might mention that among the articles referred to are several very fair hatchets, light and well shaped, but rough in finish.

The spades and hoes are heavy and cumbersome, and very rough and unfinished, as is also an implement designed to serve as a hand-harrow, being four-pronged. They appear to be made out of bar or sheet metal by being beaten into shape.

The harrow is constructed of two pieces of bar-iron. The one piece is bent in the form of a semicircle, and forms the two outer prongs of the implement, while the two inner prongs are in one piece, the bar of which they are composed being twisted on itself twice, and forming loops, and through which the outer part is thrust before being bent.

The spade has a most primitive neck, the wooden handle being merely driven into a socket.

The hoe has a bent iron handle to accommodate the workman, and allowing him to turn up the rice patches without bending his back. In this case also the handle merely slips into a socket in the head of the blade.

Some very curious and perhaps the most remarkable articles in the whole collection are to be found among the trowels and razors.

The trowel consists simply of a strip of metal about 6 inches long and 2½ inches broad. It is shaped just as it is cut off the bar, not even being tapered at the end, but merely an oblong piece of iron with a pang beaten out at one end, which pang is driven through a round piece of wood which serves as a handle, and clinched at the opposite end by being turned over on itself.

RAZORS.

The razor might well be denominated an antique, and considering how much attention the Chinese pays to his shaving it is a marvel how he either manages with or tolerates this extraordinary production. The handle is a natural piece of twig just as it is cut from the tree, not even being stripped of its bark. A groove is cut into it; the blade is riveted on to the end by means of a nail or piece of wire which is clinched at both ends. A piece of iron plate or tubing is fixed on to the handle over the joint for the purpose of strengthening the same; this is riveted, and a groove is made in it to correspond with that made in the wood. The blade can only be described by supposing a conical disk of metal about 6 inches long and 2 inches wide, about one-third of an inch thick on the outside and tapering in thickness from the edge inward to the center. Cut this cone into equal parts lengthwise, and then cut each half into two; the quarters of the cone you will thus have will convey exactly the shape and size of the Chinese razor. The cutting side is the edge which has been made in dividing the cone throughout its greatest length; the back of the blade is the outside edge of the cone, which, as we have already said, was about a third of an inch broad. The end of the blade is left rough and unpolished, the fracture remaining just the same as it was when it was cut in two. One can but wonder how the process of shaving with such an instrument is effected.

As I have already remarked the greatest interest is being taken by makers here regarding these manufactures, and especially in relation to the published reports of the British chargé d'affaires, together with the prospects held out by the British foreign secretary as to the certainty of a new market opening up for Birmingham-made wares of the foregoing descriptions.

JOSEPH B. HUGHES,
Consul.

UNITED STATES CONSULATE,
Birmingham, November 17, 1886.

KEROSENE IN CHINA.

REPORT OF CONSUL SEYMOUR.

Recent disclosures in regard to the sales by the Chinese authorities of the kerosene monopoly in this province of Kwangtung tend to throw some light upon the question touching the extent and magnitude of the importation of and traffic in American kerosene, respecting which there are now absolutely no data or statistics, as the transportation of this article is restricted to native junks, and the duty and lekin tax thereon collected by native speculators, who buy the monopoly of collecting duty and lekin on kerosene and endeavor to keep all particulars from the public.

In 1882 the lekin tax imposed on kerosene imported into the province of Kwangtung was 40 cents per box containing two cans, each holding four imperial or five common trade gallons of kerosene; and the monopoly of collecting this lekin tax was sold for $30,000, which would represent, at 40 cents per box, an importation of 75,000 boxes or 750,000 trade gallons, of the approximate value of $150,000.

The lekin tax remains unchanged, but the sales of the lekin monopoly on kerosene into Canton for the year 1886 amounted to $60,000, which left the speculating syndicate a large margin of profits, although that sum represented an importation and consumption of about 150,000 cases or 300,000 cans, or say 1,500,000 trade gallons, of the approximate value of $300,000.

Bidders for the kerosene lekin monopoly in this province of Kwangtung for the coming year are informed no bids will be entertained for less than $100,000, which represents about 250,000 cases, or 500,000 cans, equivalent to about 2,000,000 imperial or 2,500,000 trade gallons; and the expectations of bidders for a margin of profits on that sum is based on the ordinary increase of the kerosene traffic and use, which seems to justify estimates that during the coming year Canton will receive and distribute over 400,000 cases or 800,000 cans, or about 10,000,000 gallons of the approximate value of $750,000.

This estimate for 1887 for Canton and its interior markets alone is about the same as the total importations of kerosene into China in 1881, according to the imperial customs trade reports for that year; and indicates, with actual transactions of present and previous years, steady and rapid extension in the importation of this important American commodity, and increased consumption of a beneficent article of commerce in Southern China, notwitstanding the severe lekin tax imposed thereon by the Chinese authorities.

CHARLES SEYMOUR,
Consul.

UNITED STATES CONSULATE,
Canton, China, November 13, 1886.

RELATIVE IMPORTANCE OF SOUTH AMERICAN STATES.

REPORT OF CONSUL-GENERAL HANNA, OF BUENOS AYRES.

This legation has been greatly besieged recently with inquiries from almost every trading center of the United States, urged by individuals and commercial associations of the highest respectability, about the development and capacity of the Argentine nation and its relative importance to other South American countries.

I am confronted at the outset with the conspicuous absence of methodical, reliable, official statistics in most of the South American states. As we all know, these countries have, for the most part, long been dormant, and in a very helpless state of political and commercial stagnation.

Many of them have also been in a transition state—restless, unsettled, and revolutionary. All that tendency, however, is now being rapidly dissipated by a steady, mighty influx of immigration, bringing with it convictions of sound, stable government, and vast sums of money, which it finds can be placed here to better advantage than in the older communities. The South American states are just now probably the

most inviting field for the uses of capital in the whole world. From the Caribbean Sea to the extremest nooks of Terra del Fuego the seekers of money investment can hardly go astray. England, Germany, France, Belgium, and Italy, especially, have made extended investments, and though not long in the field are even now reaping a golden harvest.

Mr. Lamas, of the Paris *Revue Sud Américaine*, has published a most instructive book on the financial and economic status of Central and Southern America.

In the light of this and other kindred information I now propose to take up the South American states all together, give their population and their composition, the extent and value of their internal improvements, their exports and imports, the sources and extent of their revenues, and their foreign and domestic debt—all approximate, of course—that any interested in such inquiries can judge for himself of the existing capacity and reserved possibilities of the Argentine Republic, the real El Dorado of all the South Atlantic and Pacific states.

We know all about the European states, but these countries, our natural markets, which have wool and hides and medicines and fine woods and india rubber they would gladly exchange for our food products, coal, iron and steel fabrics, machinery, and our other devices of such vast variety and unrivaled excellence, to widen the fields of agriculture and lessen the burden of husbandry, we know comparatively little about.

But if we will not come to them they are going to us, and sooner or later we must know them thoroughly and trade with them, as a necessary result of our vast resources, and for the disposition of the product of skilled handicraft, the chief reliance of so many millions of our people.

Population of South American states.

Countries.	Caucasian.	Indian.	Half-breeds.
Brazil	3,500,000	3,500,000	4,500,000
Mexico	1,200,000	4,086,000	4,400,000
Argentine Republic	3,200,000	100,000	200,000
Colombia	370,000	1,200,000	1,630,000
Central America	400,000	1,000,000	1,370,000
Peru	350,000	1,000,000	1,250,000
Chili	2,000,000	50,000	300,000
Bolivia	350,000	1,070,000	900,000
Venezuela	300,000	800,000	1,000,000
Ecuador	120,000	460,000	600,000
Uruguay	680,000	.....	20,000
Paraguay	50,000	80,000	220,000
Totals	12,520,000	13,346,000	16,390,000

Internal improvements.

Countries.	Railways.	Telegraphs.
	Miles.	*Miles.*
Argentine Republic	4,974	11,790
Brazil	3,807	5,779
Mexico	3,720	9,920
Chili	1,152	5,895
Peru	1,124	2,484
Uruguay	297	745
Central America	279	1,736
Venezuela	102	1,138
Ecuador	76	93
Bolivia	56	186
Colombia	75	2,356

Progress of navigation.

Countries.	Entries.	Tonnage.
Brazil	15,920	8,705,000
Argentine Republic	67,432	10,773,000
Uruguay	28,132	5,959,000

The entries and tonnage of the balance of the South American states need hardly be included in this review, as they appear so trivial in comparison with the three chief maritime Governments above enumerated, their details would be of little interest.

IMPORTS AND EXPORTS.

The comparative figures of trade seem quite startling indeed. The extended importations of the Argentine Republic exceed all her sister States. The fact that so large a proportion of these importations consists of the industrial products of the United States, now held in excess by our manufacturers, in the midst of such vast numbers of idle, discontented wage-workers, for the want of a vigorous market, renders the outlook interesting and instructive.

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
Argentine Republic	$95,895,000	$91,191,000	Colombia	$9,300,000	$13,500,000
Brazil	80,000,000	88,300,000	Ecuador	7,600,000	9,400,000
Chili	39,000,000	48,000,000	Guatemala	2,200,000	3,100,000
Mexico	25,000,000	26,000,000	Salvador	2,000,000	3,000,000
Uruguay	20,100,000	25,000,000	Honduras	2,400,000	3,200,000
Venezuela	17,250,000	19,600,000	Costa Rica	1,600,000	1,900,000
Peru	12,000,000	15,000,000	Nicaragua	1,200,000	1,900,000
Bolivia	5,500,000	17,650,000	Paraguay	960,000	1,720,000

FINANCES.

The figures at hand indicate that the Argentine Republic, Uruguay, and Chili alone, of all the countries in Latin America, are exempt from annual deficits. Here they are:

Countries.	Revenue.	Expenditures.	Deficit.
Argentine Republic	$43,500,000	$42,765,000	.....
Brazil	46,400,000	58,400,000	$12,000,000
Chili	40,200,000	40,000,000	.....
Mexico	33,000,000	48,000,000	15,000,000
Uruguay	11,600,000	11,400,000	.....
Venezuela	5,200,000	5,400,000	200,000
Colombia	5,000,000	10,600,000	5,600,000
Salvador	4,600,000	5,400,000	800,000
Guatemala	5,200,000	5,600,000	400,000
Bolivia	3,400,000	4,800,000	1,400,000
Ecuador	3,000,000	3,600,000	600,000
Honduras	2,400,000	2,800,000	400,000
Costa Rica	1,200,000	1,600,000	400,000
Nicaragua	1,400,000	1,600,000	200,000
Paraguay	600,000	800,000	200,000

Mr. Lamas has predicted that in 1895, judging by the advance of the last five years, the revenues of the Argentine Republic, Brazil, and Uruguay will stand about as follows:

Argentine Republic	$121,200,000
Brazil	55,800,000
Uruguay	22,400,000

While on this subject it may be well, for the information of United States traders, to furnish a statement of the indebtedness of such South American states as they are most interested in. I believe it is nearly accurate.

Countries.	Home debt.	National paper money.	Foreign debt.
Argentine Republic	$47,188,000	.....	$73,994,000
Brazil	218,000,000	$76,000,000	94,000,000
Chili	42,000,000	20,000,000	24,800,000
Mexico	Unknown.	80,000,000	80,000,000
Uruguay	20,000,000	.....	35,000,000

Of the other South American states it may be said, generally, they are in a state of financial chaos, the end of which the most skilled financiers cannot foresee, and about which they would hardly venture even a surmise.

Mr. Lamas's calculations were made in 1883–'84. Of course, there has been a vast increase during the two following years, and more especially so in the Argentine Republic and in Uruguay, familiarly called the countries of the River Plate. In the general summary Mr. Lamas assigns the Argentine Republic the lead of all the Latin American countries, ranking first in territory, suitable for the immigration of agricultural enterprise, in European population, in the numbers of its Italian, French, North American, English, and German settlers; in railways, telegraphs, tramways, telephones, navigation, and post-office returns; extent of trade, growth of revenue, and in public education. It is really a source of much regret that this country has hitherto been so little understood and so sadly neglected both by the people and Government of the United States. It is a wonderful lead of rarest possibilities. In addition to its railway improvements stated above, it now has more than a thousand miles of new lines under course of rapid construction, which will reach completion by the middle of next year.

Vast railroad charters have been sanctioned by the present Congress, notably among them those granted to the Buenos Ayres and Pacific and the Transcontinental Railway Companies, the former 1,200 miles in length and the latter 1,500 miles in length. The Buenos Ayres and Pacific line, on the thirty-fourth parallel, now completed and operated to Mendoza, runs through the Uspallate Pass and terminates at Valparaiso, in Chili. The Transcontinental road is to be constructed on the thirty-eighth parallel.

It is already built and in operation from Buenos Ayres to Bahia Blanca, on the Atlantic, and from there runs westward to Talcahuano, crossing the mountains, by the Colorado Pass, to Antuco, on the Pacific slope. Both of these roads are to be constructed with English capital, upon an agreed basis of cost per mile, with a guarantee of 6 per cent. on the part of the Argentine Government, covering a period of twenty years.

Little or no American capital has hitherto found its way here, though the recent organization in New York of a reputable and powerful syndicate, with $20,000,000 capital, gives assurance that our people are now ready to compete in the field for the rich results, hitherto unchallenged, borne off by European corporations. This syndicate includes many of the largest capitalists of New York, and is represented here by Mr. W. P. Tisdel, now on the ground studying the field of opportunities, and ready at a moment's notice to engage in negotiations for the

construction of railways, or make investments in the internal and foreign navigation.

The great need of an American steamship line, to be operated directly between New York and the River Plate countries, so long and so seriously felt, we trust, as matters now work, will very soon be supplied, and by United States capital and enterprise. These movements once inaugurated will in part settle the vexed question of hindrance in the way of North and South American trade.

BAYLESS W. HANNA,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Buenos Ayres, October 23, 1886.

INDUSTRIAL SITUATION OF LOWER CALIFORNIA.

REPORT OF CONSUL VIOSCA, OF LA PAZ.

That geographical belt which encircles the world at large, extending along the most northern part of the tropical climates, reaching as far north as the thirty-first degree, and noted for the sterility of its soil and scarcity of rains, unfortunately embraces the whole of this peninsula, which, like the balance of the countries parallely situated, is naturally barren and destitute of vegetation. Being also devoid of the common supply of rains enjoyed by the rest of the earth, and which in these latitudes should occur during the hot months, its water courses and springs are, as a matter of consequence, few and insignificent. Frequently periods of from two to three years take place without a shower of rain falling, the present one being a deplorable example.

The total lack of rain during the hot season of 1886 has cast a gloomy and a menacing trial of famine to the inhabitants of this desolate territory. The winter season, which generally brings a few light showers, does not seem to promise any improvement over the actual condition of matters. Stock-raising, which is one of the principal elements, will suffer greatly. Cattle have already been rapidly dying, and the mortality will increase with the coming spring and summer months.

MONOPOLIES.

The situation on the peninsula is really a desperate one. The monopolization of the most important branches of its industries, such as pearl-fisheries, orchilla weed, and many of the other native products which heretofore were the only resources of the more industrious people, are now, under the present system of government contracts, concentrated in the hands of a few capitalists, thus reducing the laboring masses to abject poverty, which compels them to work for a scant subsistence. Apart from this, the revenue taxes have been increased to such an extent that the poor will soon be compelled to go without clothing or to emigrate.

To illustrate this fact, the following list gives an idea to what an extent the resources of Lower California have been let or contracted by the Mexican Government to private individuals:

Year.	Parties contracting.	Subject of contract.	Term of contract.
1883....	Flores, Hale & Co....	Colonization of all of the orchilla-producing lands on the Pacific coast of Lower California, and to export the orchilla weed.	Perpetual.
1884....	Juan Hidalgo.....	Pearl fisheries, from Loreto to Cape Pulmo, on the Gulf coast of Lower California.	16 years.
1884....	A. Sanchez & Co.....	Pearl fisheries, from San Bruno to San Marcos Island, on the Gulf coast of Lower California.	Do.
1884....	Alberto Sanchez & Co	Guano on the islands of the Gulf of Lower California.	Do.
1884....	Gonzalez & Ruffo.....	Pearl fisheries on the islands of Cerralbo and Espiritu Santo, Gulf of Lower California.	Do.
1884....	Higinio Canudas & Co.	Pearl fisheries on the waters of the San José Island, Gulf coast of Lower California.	Do.
1884....	Luis Huller & Co	Colonization of public lands between latitudes 29° to 32° 42′ north of Lower California and Cerros Islands, situated on the Pacific coast.	
1885 ..	Carlos Eisenmann	To work and export the liquen dye and fiber produced by the shrubbery called torote, lomboy, matacora, and wild dates.	10 years.
1885....	Guillermo Andrade...	Colonization of Angel de la Guardia and San Estevan Islands, on the Gulf of Lower California.	
1885 ..	Luis Huller & Co.....	Guano and salt on the islands of the Gulf and Pacific coast of Lower California.	16 years.
1886....	M. Tinoco & Co.....	Colonization and copper mines in the Muleje district of Lower California.	Do.

The mentioned concessions, if taken in the proper prospective view, it would appear that the necessary capital and ingenuity to develop the material resources of this country would be forthcoming and that the laboring classes would thus be benefited. (This was no doubt the intention of the Government at the time of making the grants.) Unfortunately this is not the case, and with the exception of the Flores, Hale & Co.'s colonization and orchilla contract, which is substantially managed, the remainder of contracts have rested since the date of their convenants a dead letter, and while the said contractors are coveteous and idle, the working people are mercilessly deprived of these resources, which would more than furnish ample means of subsistence.

TRADE WITH THE UNITED STATES.

Commerce also follows the catastrophe which awaits this country. The trade between this territory and the United States is yearly decreasing to such an extent that it is becoming insignificant and will probably fall entirely unless some wise and more liberal revenue laws are enacted to save it from its present doom.

Coincidental circumstances happened to this country in early days, which were averted by protective measures taken by the Government, embodied in the tariff of 1856, which granted, as per its Article IX, the importation of provisions at the following moderate rates:

Rice	per 100 pounds..	$0 75
Sugar	do	1 00
Coffee	do	1 12½
Superfine flour	per barrel..	1 00
Extra superfine flour	do.....	1 50
Lard	per 100 pounds..	1 20
Salted pork	do.....	1 20

And all other provisions not specified above paid a duty of 16 per cent. ad valorem. The above concession being aided by its free list of

articles not manufactured in Mexico, and which were essential for the advancement of the few industries of the Republic, produced the desired effect of completely changing the condition of affairs in Lower California. Mines were opened in every mineral district, lines of steamers were established, plying between San Francisco, Cal., and the west coast of Mexico, and many other improvements were developed, thereby creating an active commerce between both countries. By these means the resources of the country were offered to the world for development, and the proceeds of the revenue were then more than sufficient to meet the public bills. This lasted until the issue of the tariff of 1872, which suppressed said franchise, modified the free list, and increased the duties at least 16 per cent. higher than the former rates on most all the articles of foreign manufacture. Since then the slow but sure depression in all the branches of commerce, industrial enterprises, and their business connections with foreign countries has been notably visible.

The tariff of 1880 was raised still higher, and several alterations were made adverse to foreign commercial intercourse, they being specially unfavorable to this country, for the reason that it depends exclusively on the importation of the necessary articles of food and for domestic uses. The free list of said tariff was insignificant, the only important articles being machinery and mining materials.

But, above all, the present unbearable tariff, issued in 1885, leaves the working classes in complete misery, the capitalists with their enterprises in bankruptcy, and the miner in most cases is obliged to abandon, with his hopes of wealth, his labor and money invested.

The actual free list assists no one, and everything appertaining to industries is highly taxed; provisions, without exception, pay an enormous duty, and the present revenue income is far from adequate to meet the public demands, the treasury department in Mexico having to provide for the deficiency.

All of which tends to demonstrate the cause of the immense decrease of trade between the United States and this country, as well as with that of other foreign nations.

JAMES VIOSCA,
Consul.

UNITED STATES CONSULATE,
La Paz, Mexico, January 8, 1887.

SUGAR INTERESTS OF JAVA.

REPORT OF CONSUL ECKSTEIN.

Both chambers of the States General of the Netherlands have just enacted laws by which certain fiscal burdens are temporarily taken off from the sugar industry (culture and manufacture) in Java.

The new laws contain the following provisions:

(1) "The export duty on sugar from Java is annulled for five years from June 1, 1887." This duty is now payable at the rate of 15 cents, Dutch currency, per 100 kilograms.

(2) Payment of a certain "special ground-tax" called tax upon "the free cultivation" (*cijns op den virjen aanplant*) is temporarily set aside.

This has reference to a class of lands belonging to certain "communes," and which are under cultivation by sugar-makers in contract with the Government and which contracts expire in 1891.

The tax amounts to 35 florins annually per bouw (an East India measure of surface, being 7,096 square meters), and such bouws produce on an average from 80 to 100 piculs of sugar yearly.

(3) An extension of payment is granted for five years on one-half of the ground-tax on Government lands or plantations.

The amount of this ground-tax is based upon the production of the land in 1870, and varies from 60 to 200 florins per bouw annually. As explained to me, it is only the removal of the export duty which has a general application; as to the benefits to be derived from the further above-described legislation, that extends to and covers only certain (93) sugar plantations cultivated under contract with the Government, but has no application to certain (128) other "plantations," which have no such contracts with the Government.

An opinion seems to prevail that the aid now extended by the Government comes rather late in the day, and that it is far from being an offset to the enormous protection enjoyed by beet-root sugar producers in various European countries.

It is thought that further damage can be averted only through individual exertions. A higher state of the cultivation of the sugar cane must be attained, and in the manufacture of sugar better or the latest improved machinery must be brought into general use.

From what I can learn the present is a most opportune time to acquire in one form or in another, and on most favorable terms, certain property rights or leases, titles and privileges, which, even though on account of existing contracts not immediately operative in all cases, might prove of the greatest benefit in the near future. There are further strong indications of a fine market opening in Java for certain kinds of the latest improved machinery, to be used in the sugar-mills, and which might, perhaps, be supplied, to a large extent, by American manufacturers.

D. ECKSTEIN,
Consul.

UNITED STATES CONSULATE,
Amsterdam, December 29, 1886.

SUGAR-GROWERS OF TABASCO.

REPORT OF CONSUL-GENERAL SUTTON.

Producers are now studying with great care the freight rates to and prices in various foreign markets for their products. As an illustration I give the following:

November 8 to 11 last all the sugar raisers of the State of Tabasco met at Cunduacán to discuss and agree upon a plan to improve the condition of this industry. The initiator was Mr. Manuel Fernandez Machado. All were agreed that exportation was necessary, and it was arranged that one-half the coming crop should be exported as crude or muscovado sugar. The hacendados may export the stipulated half or may sell to merchants who will do so. Having thus agreed on exporting, they write to the *Economista Mexicano*, asking where they shall send this surplus. They disclaim any desire of modifying the rates of exchange or raising the price of silver. They only wish to dispose of their product and not be drowned in the *dulce* they raise. While they have not fully resolved, they all favor sending to New York, although

some merchants seem to think the English market better. They ask the editor, Mr. Zapata Vera, to give them all the information on this point that he can, and to also inform them as to how they shall make their invoices.

In his reply, published in the *Economista Mexicano* December 24, 1886, the editor heartily approved the plan of exporting one-half of the crop instead of depending entirely on the home market, and quotes from a previous article, in which he urged that producers had given too much attention to making refined sugars for home consumption, and neglected the production of the low grades for export. The home demand for the finer grades is easily filled, and they are left with an overstock, which cannot be disposed of at home or shipped abroad. In other words, a small amount of sugar may be refined and used to supply the home market, but the main dependence should be producing a low grade for export. This method he shows would raise the price of sugar at home and also increase the exports. He has no doubt that the plan proposed by the planters of Tabasco will thus favorably affect their interests.

As to a market, he favors Liverpool over New York for the following reasons:

(1) Crude or muscovado sugar is free of duty in England, while in the United States it has to pay a duty of $1\frac{4}{10}$ to $2\frac{3}{4}$ cents per pound, according to classification.

(2) Freight rates between Tabasco (Frontera or Progreso) and New York and Liverpool are equal. As he is informed by the agent of the Compañia Trasatlántica Española, the regular rate to either New York or Liverpool is about $11 per ton of 1,000 kilograms, though for large amounts a discount from this rate could be obtained. Mr. Zapata Vera notes that steamers of the above line receive freight (at Progreso) for delivery in Liverpool without transshipment.

(3) The Tabasco sugar exported to Liverpool would only have to be transshipped once in Progreso, while that for New York would have to be again transshipped in Havana, unless sent by the Alexandre steamship line, which has no fixed time for sailing and which might not touch at Progreso.

As to the price, he says that all the principal markets of the world are so related that the exporter is most interested in securing good freight rates, insurance, and the convenient placing of his money.

In favor of Liverpool he adds:

The Mexican sugar is divided into four classes, and from the samples he has seen in the house of Messrs. Watson, Phillips & Co. the classes exported from Tabasco would be Nos. 3 and 4.

In case the Tabascan exporters do not know good commission merchants, he recommends them to try Watson, Phillips & Co., of Liverpool, as having a good credit and great experience in this line. He also speaks favorably of the Ledward & Libby Company, of Liverpool.

It will be well to give the gross and net weight of the sugar in the invoices, although there is a fixed discount for the coverings.

In another column he gives the New York and Liverpool prices for sugars, as follows:

Last quotations of muscovado sugar, New York, $4\frac{2}{16}$ to $4\frac{10}{16}$ cents per pound; Liverpool, 10 shillings to $10\frac{3}{4}$s. per qt.

In closing his article he congratulates the sugar raisers of Tabasco upon this united action, so little known in Mexico, and expresses the hope that the raisers of cacao, whose lack of agreement has brought their industry into such misery, will speedily follow their example.

I have made this free translation of Mr. Zapata Vera's article to call attention to the intelligent action of the Tabascan sugar-growers. Such organizations are being formed or talked of in other places and as regards other products.

It is plain to be seen that the writer's sympathy is with the English house and the Spanish steamship line he mentions.

Its publication may enable our merchants to obtain some points of interest and value in regard to Mexican trade in sugar and similar products.

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Matamoros, Mexico, January 13, 1887.

TURNIP AND BEET FODDER FOR MILCH COWS.

REPORT OF CONSUL RYDER, OF COPENHAGEN.

The agricultural journals of this country are using their best endeavors to promote a thorough investigation of this subject.

It may at once be admitted that if one could unconditionally accept theoretical guidance in regard to the value of foddering stuffs, the question could be decided without difficulty; as, taking the analyses of the different substances, their relative values are found to be as follows, viz: beets, 16; Swedes, 17.16; turnips, 12; barley, 107.4; oats, 108.3; and wheat bran 118.4, all calculated per 100 pounds.

The following data are now brought forward in these journals as throwing some light on the subject:

First, taking it for granted that the price of 100 pounds of barley is at present $1.35, 100 pounds of oats $1.35, 100 pounds of wheat bran $1.21, the price of each as fodder will then be—

	Cents.
Barley	1½
Oats	1½
Wheat bran	1

Taking the lowest given value of 1 cent, the following values in theory will be: For 100 pounds fodder beets, 16½ cents; 100 pounds Swedes, 18 cents; and 100 pounds turnips, 12½ cents, at which prices it is admitted the culture of these roots for foddering on the Home farm would certainly be found remunerative.

On good soil, where a good grain crop could be looked for, the culture of these will not be remunerating unless the roots, at the very lowest, can fetch a price of 17 cents per barrel of 160 pounds, or of 10⅝ cents per 100 pounds. On light or boggy land their cost of production will be somewhat less, especially when the distance of transport is short.

Now, as strong foddering in a fodder mixture for the milch cows is calculated to cost 1⅛ cents per pound, the following scale of reduction may be employed, viz: 1 pound strong fodder equals 12½ pounds roots, 3½ pounds meadow hay, or 3 pounds field hay; 10 pounds strong fodder equals one grazing day without strong fodder, therefore 100 pounds roots should have the value of 10⅛ cents, 100 pounds of meadow hay of 38 cents, 100 pounds field hay of 45 cents, and one grazing day of 13⅛ cents, all calculated upon the cost of foddering at the place of culture and on the assumption that the average price of strong fodder is taken at 1⅛ cents per pound.

MILK PRODUCT.

A large number of dairy accounts have been received from different large dairy farms throughout the Kingdom, of which fifteen are from farms where the herds have been somewhat liberally foddered with roots, whilst four are from places where no roots whatever have been given to the herds. Taking the average of all the fifteen root-foddering farms, the winter foddering per cow was as follows: 1,138 pounds strong fodder equal 1,138 pounds; 983 pounds field hay equal 327 pounds strong fodder; 1,025 pounds meadow hay equal 293 pounds strong fodder; 4,939 pounds of roots equal 395 pounds strong fodder; together, 8,085 pounds mixture, reduced to 2,153 pounds strong fodder. From this 2,387 pounds of milk have been produced. One hundred pounds of milk have thus been obtained from 90.2 pounds of strong fodder, at the cost of $1.21, to which working expenses must be added. During the summer months the consumption for each cow on these fifteen farms was as follows: 145 grazing days equals 1,450 pounds strong fodder; 165 pounds strong fodder equal 165 pounds strong fodder; 45 pounds clover hay equal 15 pounds strong fodder; 48 pounds meadow hay equal 14 pounds strong fodder; together, 1,644 pounds strong fodder, from which has been produced 2,262 pounds milk, so that 100 pounds milk have been obtained from 72.7 pounds strong fodder, at the cost of 98 cents per 100 pounds.

These root foddering farms having given per cow, during the entire year, an average of 4,649 pounds milk: 1,303 pounds strong fodder equal 1,303 pounds; 1,028 pounds field hay equal 342 pounds strong fodder; 1,073 pounds meadow hay equal 307 pounds strong fodder; 4,939 pounds roots equal 395 pounds strong fodder; 145 grazing days equal 1,450 pounds strong fodder; together, 3,797 pounds strong fodder; 100 pounds milk having thus been produced from 81.7 pounds strong fodder at the cost of $1.10, whilst the average per cow for the four non-root-foddering farms has been as follows, viz:

(1) For winter months: 1,389 pounds strong fodder equal 1,389 pounds; 1,162 pounds field hay equal 387 pounds strong fodder; 308 pounds meadow hay equal 88 pounds strong fodder; together 1,864 pounds strong fodder, from which has been yielded 3,132 pounds milk or 100 pounds milk to every 60 pounds strong fodder, at the cost of 81 cents.

(2) For the summer months: 150 grazing days equal 1,500 pounds strong fodder; 36 pounds strong fodder, equal 36 pounds strong fodder; together 1,536 pounds strong fodder, from which 1,826 pounds milk have been produced, or 100 pounds to every 84.2 pounds strong fodder, at the cost of $1.13.

(3) For the entire year: 1,426 pounds strong fodder equal 1,426 pounds; 1,162 pounds field hay equal 386 pounds strong fodder; 308 pounds meadow hay equal 88 pounds strong fodder; 150 grazing days equal 1,500 pounds strong fodder; together, 3,400 pounds strong fodder; 100 pounds milk being obtained from every 68.6 pounds strong fodder, at the cost of 93 cents.

The production of 100 pounds milk on the two different foddering systems (the dairy drift expenses, the care of the cows, and keeping up of the stock not being included) has been obtained, at the following cost: For the root-foddered herds during winter, with $1.21; during summer, with 98 cents; and for the entire year, with $1.10; whilst for the non-root, foddered herds: during winter, with 81 cents; in summer, with $1.13; and for the entire year, with 93 cents.

The cost of producing 100 pounds milk from the non-root-foddered herds having thus been less than that from the root-foddered, as follows: In winter, by 40 cents; in summer, 15 cents; and for the entire year, by 17 cents.

This will give per cow, with a yield of 4,758 pounds milk, a net advantage of $8.75 for the first-named class of foddering as compared with the last (root-foddering), and for a cow with a milk yield of 4,649 pounds of $8.20.

BREEDING AND GRAZING.

Amongst the root-foddered herds about 44 per cent. of the cows calved before the new year, as against about 50 per cent. of the cows of the non-root-foddered. Again, it is remarked that 13 of the root-foddered herds have, on the average, used 0.35 of a barrel of land-measure of grass area per cow during summer, as compared with 1.3 barrel land-measure of grass area for the non-root-foddered herds.

Turning next to the returns received from a larger dairy farm for the years from 1st November, 1875, to 1st November, 1876, and again from 1st November, 1876, to 1st November, 1877, in both of which the foddering with roots had been to much smaller extent than for a long series of years, it is seen that in 1875–'76 100 pounds milk were produced from 24 pounds strong fodder equal 24 pounds; 24 pounds field hay equal 8 pounds strong fodder; 16 pounds meadow hay equal 4 pounds strong fodder; 3.6 grazing days equal 36 pounds strong fodder; together 72.6 pounds strong fodder, in 1876–'77; 100 pounds milk from 28.15 pounds strong fodder equal 28.5 pounds; 8 pounds roots equal 0.6 pounds strong fodder; 21.5 pounds field hay equal 7 2 pounds strong fodder; 25 pounds meadow hay equal 7.1 pounds strong fodder; 3.1 grazing days equal 31 pounds strong fodder; together 74.4 pounds strong fodder.

Comparing these returns with the year's accounts for 1884–'85, when a larger quantity of roots were fed, it is found that 100 pounds of milk were here produced from 26 pounds strong fodder equal 26 pounds; 98.4 pounds mangolds equal 7.9 strong fodder; 6 pounds field hay equal 2 pounds strong fodder; 43.2 pounds meadow hay equal 12.3 pounds strong fodder; 2.88 grazing days equal 28.8 pounds strong fodder; together, 77 pounds strong fodder.

It is thus shown that in these cases the cost of milk production has been highest where root fodder has been employed.

The consumption for 100 pounds milk was, in 1884–'85, 4.4 pounds greater quantity of strong fodder than in 1875–'76, and of 2.6 pounds than in 1876–'77. Estimating one pound of strong fodder to cost 1½ cents, 100 pounds milk will have cost 6 and 3½ cents in the years named.

RESULTS.

The result is: (1) That roots as a rule have not yielded a price of 17 cents per 160 pounds; (2) that roots are not essential to maintain the milk quantity; (3) that hay, especially good field hay, is the best for this purpose; (4) that a fodder containing too much nitrogen produces a large quantity of, but a less fatty, milk.

Looking at the accounts received from the large dairy farm of Rosvang, it is seen on comparing the three years 1873–'75, when there was no root foddering, with the eight years of 1876–'83, that the cost of producing 100 pounds of milk (estimating one pound of strong fodder at 1½ cents, 1 barrel of roots at 17 cents, and 100 pounds meadow hay in the three first years at 39 cents, and in the last eight years, when the hay

was cut in ripe condition, the seed sold at 31 cents; and the summer grazing estimated at $19) was as follows: For the first three years without roots, 88½ cents; for the last eight years with roots, 84¼ cents, showing a less cost with root foddering of 4¼ cents per 100 pounds milk; or for a cow yielding 5,360 pounds milk, of a larger net income per cow of $2.18.

It is stated that at the Rosvang dairy 23 barrels of roots have compensated for 303 pounds strong fodder; 1 barrel of roots thus producing the same amount of milk as 13 pounds of strong fodder. At this farm, therefore, it is seen that the use of from 23 to 37 barrels of roots per cow has been found remunerative, inasmuch as the roots have brought out a price of 17½ cents per 160 pounds when strong fodder was costing 1⅓ cents per pound.

Mention is made in those accounts that in 1875 it was found necessary to reduce the amount of strong fodder so that the prolific powers of the cows could be maintained; and in 1883 it was seen that even 1,115 pounds with 37 barrels of roots was found too much for the herd without danger to their powers of fecundity. This attempt at solving the question of root-foddering for milch cows must not be interpreted as against the culture of roots for these purposes. A good profitable dairy can be carried on without roots; at any rate when good hay is at hand.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, September 13, 1886.

TARIFF OF PERU.

In transmitting the new Peruvian tariff which went into effect on January 1, 1887, Consul Brent says:

This tariff was drawn up by a commission composed of high government treasury and custom-house officials, together with eight of the leading Peruvian and foreign merchants of Lima, and is considered as equitable, being a reduction on that now in force.

Duties on importations to go into effect January 1, 1887, *and continue up to December* 31, 1888.

[Peruvian silver sol = 0.751 United States gold dollar.]

Article.	Weight or measure.	Valuation.	Percentage of duty.	
			Old tariff.	New tariff.
Acids for manufacturing purposes	Kilogram	Various	40 per cent	40 per cent.
Albums	Dozen	6 to 60 soles	45 per cent	40 per cent.
Alcohol	Kilogram	1 to 4 soles	40 per cent	40 per cent.
Aniline colors or dyes	....do	3 to 4 soles	40 per cent	40 per cent.
Animals:				
For breeding purposes	Each	Sight value	10 per cent	10 per cent.
Not for breeding purposes	....do	....do	10 per cent	10 per cent.
Apparel of all kinds	Dozen	Class	50 per cent	40 per cent.
Arms, fire, rifles, &c. (prohibited)				
Arms, sporting, fowling-pieces, &c.	Each	3 to 20 soles	45 per cent	40 per cent.
Barley	Kilogram	002 cts. to 019	10 and 40 pr. ct.	10 to 40 per ct.
Baggage, personal		Free		
Bonnets of all kinds	Dozen	6 to 36 soles	45 per cent	45 per cent.
Books, engravings	Kilogram	050	10 per cent	10 per cent.
Maps, charts, globes		Free		
Brass, manufactures of	Kilogram	0.50	45 per cent	40 per cent.
Bronze, manufactures of	...do	0.50	45 per cent	40 per cent.
Billiard-tables	Each	500 soles	50 per cent	50 per cent.
Brushes of all kinds	Dozen	1 to 6 soles	45 per cent	20 and 40 pr. ct.
Bullion, gold and silver		Free		
Beer:				
In casks	Liter	0.10	70 per cent	65 per cent
In bottles	Dozen	Specific	1.80 soles	

Duties on importations to go into effect January 1, 1887, *&c.*—Continued.

Article.	Weight or measure.	Valuation.	Percentage of duty.	
			Old tariff.	New tariff.
Bone, horn, ivory, manufactures	Kilogram	15 soles	45 per cent	40 per cent.
Cabinet and house furniture	do	0.12 to 1.20 soles.	50 per cent	45 per cent.
Carpets and carpetings, rugs, &c	do	0.60 to 1.00	40 per cent	40 per cent.
China, porcelain ware, plain or decorated.	Cubic decimeter.	0.10	45 per cent	40 per cent.
Cigars and cigarettes:				
Cigars, Havana manufacture	Per 1,000	Specific	2.70 per kilos.	20 soles.
Cigars, from other countries	do	do		10 soles.
Cigarettes, Havana manufacture.	Packages 1,000	do	0.70 per kilos.	40 soles.
Cigarettes, from other countries (each package with 24 cigarettes.	do	do		20 soles.
Clocks	Each	Sight value	45 per cent	40 per cent.
Cordage:				
Manila	Kilogram	0.20	10 per cent	10 per cent.
Sisal	do	0.10	10 per cent	10 per cent.
Hemp	do	0.25	10 per cent	10 per cent.
Cotton, manufactures of:				
Sheetings	do	0.55 to 1.20	40 per cent	40 per cent.
Dress-goods, cambrics, calicoes, &c.	do	1.60	40 per cent	40 per cent.
Shirtings	do	0.60	40 per cent	40 per cent.
Drills	do	0.60	40 per cent	40 per cent.
Flannels	do	0.60	40 per cent	40 per cent.
Thread, for embroidering	do	1.20	40 per cent	40 per cent.
Thread, ordinary sewing	Gross	0.60	40 per cent	40 per cent.
Osnaburgs	Kilogram	0.60	40 per cent	40 per cent.
Hollands	do	0.90	40 per cent	40 per cent.
Coaches	Each	200 to 600	50 per cent	45 per cent.
Cutlery	Dozen	Class	45 per cent	40 per cent.
Diamonds and precious stones unset (ad valorem).			10 per cent	10 per cent.
Embroideries, linen	Kilogram	5.00	40 per cent	40 per cent.
Flour	do	Specific	3½ cents	3½ cents.
Fans of all kinds	Dozen	0.40 to 48.00	45 per cent	40 per cent.
Feathers of all kinds	Cubic decimeter.	0.15 to 0.25	45 per cent	40 per cent.
Frames, looking-glass and picture	Kilogram	0.20 to 0.50	45 per cent	40 per cent.
Fish, canned	do	0.30	40 per cent	40 per cent.
Glass, manufactures of	do	Various	45 per cent	40 per cent.
Hair, wigs, toupées, &c	Each	5.00	45 per cent	40 per cent.
Hats of all kinds	Dozen	3 to 48	50 per cent	45 per cent.
Harness, per set	Set	15 to 45	50 per cent	45 per cent.
Harness, saddles	Each	6 to 24	50 per cent	45 per cent.
Iron, manufactures of	Dozen or gross	Sight value	45 per cent	10 per cent.
Agricultural implements	To be valued at sight.		10 per cent	10 per cent.
Sewing-machines	Each	Class	10 per cent	10 per cent.
Sewing machines, needles, and accessories.	Gross	1.50	10 per cent	10 per cent.
Printing presses	Kilogram	0.10	10 per cent	10 per cent.
Indigo	do	3.00	20 per cent	20 per cent.
Instruments:				
Scientific	Each	Sight	45 per cent	10 per cent.
Musical	do	do	45 per cent	40 per cent.
Pianos	do	200 to 500	45 per cent	40 per cent.
India rubber, manufactures of	Kilogram	2.00	45 per cent	10 per cent.
Ivory, manufactures of	do	15.00	45 per cent	40 per cent.
Ivory, not manufactured	do	6.00	45 per cent	40 per cent.
Jewelry:				
Imitation		Sight value	45 per cent	40 per cent.
Real		do	10 per cent	10 per cent.
Kerosene	Liter	Specific	15 per cent	6 per cent.
Lace:				
Cotton	Kilogram	5.00	45 per cent	40 per cent.
Linen	do	40.00	45 per cent	40 per cent.
Lard	do	0.20	25 per cent	25 per cent.
Lead:				
Manufactures of	do	0.10	45 per cent	40 per cent.
In ingot	do	0.08	20 per cent	10 per cent.
Leather, dressed	Dozen and kilogram.	Various	45 per cent	40 per cent.
Lumber:				
Oregon and pitch pine, dressed	Cubic meter	12.50	10 per cent	20 per cent.
California redwood	do	15.00	10 per cent	20 per cent.
Undressed	do	10.00	10 per cent	10 per cent.
Linens	Kilogram	Various	45 per cent	40 per cent.
Lithographic stones, engraved	Each	Value at sight	10 per cent	10 per cent.
Marble, manufactures of	Square meter	3 to 6.00	45 per cent	40 per cent.

Duties on importations to go into effect January 1, 1887, *&c.*—Continued.

Article.	Weight or measure.	Valuation.	Percentage of duty.	
			Old tariff.	New tariff.
Machinery for agriculture, mining, arts, and trades.	Kilogram	0.10	.005 per cent.	.010 per cent.
Meat, canned	...do	0.50	40 per cent.	40 per cent.
Mineral waters	Dozen	2.00	40 per cent.	40 per cent.
Medicines and drugs		Light and class value.	40 per cent.	40 per cent.
Naval stores, general	Kilogram	Sight value.	10 per cent.	10 per cent.
Oil-cloth	...do	0.40	45 per cent.	40 percent.
Opium (specific, 2 soles per kilogram).				
Oils:				
Crude	...do	0.12, 0.20	40 per cent.	40 per cent.
Essential and distilled	Kilo. and gram.	Sight	40 per cent.	40 per cent.
Paintings, oil and water colors	Each	...do	45 per cent.	40 per cent.
Paper:				
All kinds, for cigarette manufacture.	Kilogram	0.60	45 per cent.	40 per cent.
For newspapers	...do	0.15	10 per cent.	Free.
Ordinary writing paper	...do.	0.35	45 per cent.	40 per cent.
Writing paper, ornamented	...do	0.50	45 per cent.	40 per cent.
Book printing	...do	0.15	45 per cent.	40 per cent.
In colors, paper for advertising	...do	0.18	45 per cent.	40 per cent.
For binders, enameled	...do	1.00	45 per cent.	40 per cent.
Idem, gold and silver paper	...do	4.00	45 per cent.	40 per cent.
Printed, bills of exchange, forms, &c.	...do	1.00	45 per cent.	40 per cent.
Press copying-paper	...do	.80	45 per cent.	40 per cent.
Wall paper, all classes	...do	.40	45 per cent.	40 per cent.
Wrapping paper	...do	.10	45 per cent.	40 per cent.
Albumen paper for photography	...do	2.00	45 per cent.	40 per cent.
Drawing paper	...do	1.00	45 per cent.	40 per cent.
Toilet paper	...do	.20	45 per cent.	40 per cent.
Perfumery	...do	.70	45 per cent.	40 per cent.
Plated britannia, and gilt ware	...do	2.50	45 per cent.	40 per cent.
Playing cards	Gross	5 to 12	70 per cent.	65 per cent.
Quicksilver and mercury	Kilogram	.60	10 per cent.	10 per cent.
Rice, hulled	...do	.7	25 per cent.	25 per cent.
Seeds	...do	.15	10 per cent.	10 per cent.
Silk, manufactures of:				
Brocades	Square meter	10 and 5	40 per cent.	40 per cent.
Damasks	Kilogram	12 and 24	40 per cent.	40 per cent.
Laces	...do	25 and 40	40 per cent.	40 per cent.
Felt for hats	Square meter	5	40 per cent.	40 per cent.
Elastic for shoes	Kilogram	8	40 per cent.	40 per cent.
Satins of all kinds	...do	30	40 per cent.	40 per cent.
Goods in which silk predominates.	...do	15	40 per cent.	40 per cent.
Velvets	...do	30	40 per cent.	40 per cent.
Velvets mixed with other material.	...do	16	40 per cent.	40 per cent.
Sugar	...do	.20	70 per cent.	65 per cent.
Silver, manufactures of	...do	50	10 per cent.	10 per cent.
Skins, dressed	Dozen	20	45 per cent.	40 per cent.
Smokers' articles, pipes, &c	Gross	6	45 per cent.	40 per cent.
Soaps	Kilogram	.15 and .30	70 per cent.	15 and 40 p. ct.
Spirits:				
Brandies, cordials, liquors of all kinds.	Liter and dozen.	Class	70 per cent.	65 per cent.
Spirits, distilled	Idem	Idem	70 per cent.	65 per cent.
Steel and manufactures of:				
Milan steel	Kilogram	.80	10 per cent.	10 per cent.
Table knives, razor, &c.	...do	Various	45 per cent.	40 per cent.
Straw, for plaiting	...do	.50	10 per cent.	10 per cent.
Tin, manufactures of	...do	.30	40 per cent.	40 per cent.
Tobacco in leaf or prepared for cigarettes:				
From Central and South America.	...do	Specific	25 cents.	25 cents.
From Havana and other countries.	...do	...do	50 cents.	50 cents.
Toys	Cubic decimeter	.8 and .15	45 per cent.	45 per cent.
Watches	Each	8 to 60 and sight value.	10 per cent.	10 per cent.
Wines of all kinds	Dozen and liter.	Class	70 per cent.	65 per cent.
Wool, manufactures of	Kilogram	...do	45 per cent.	40 per cent
Wheat (1 cent per kilogram).				
Zinc, manufactures of	...do	12 to 40	20 and 45 p. ct.	10 and 40 p. ct.

CALLAO, *December* 26, 1886. H. M. BRENT, *Consul.*

NOTES.

The Italian silk crop of 1886.—Consul Crouch, under date of Milan, November 30, 1886, writes as follows:

This year's silk crop has been exceptionally favorable to the growers. In the first place, the average yield per ounce of "seed," or silk-worm eggs, incubated was 33.21 kilograms, equal to 73.24 pounds of cocoons. This is much the highest figure that has been obtained for several years, as is evident from the following table:

Year.	Yield.	Year.	Yield.
	Kilos.		*Kilos.*
1880	24.22	1884	25.76
1881	24.96	1885	26.17
1882	23.82	1886	33.21
1883	28.82		

The grower has also had the advantage of the decrease in the price of silk seed, due to the increasing production in Italy, which has rendered him less dependent upon the more expensive foreign article. The mulberry leaves have been of good quality and very abundant, and the price consequently low. Lastly, the price of cocoons was much higher than in the preceding year.

The total crop this year amounts to 91,291,796 pounds, which is nearly 8,000,000 above the average yield of the last seven years. The provinces contribute to make up this total as follows:

District.	Yield.	Yield.	District.	Yield.	Yield.
	Kilograms.	*Pounds.*		*Kilograms.*	*Pounds.*
Lombardy	16,928,449	37,335,694	Adriatic Southern Italy	92,061	203,041
Piedmont	7,464,721	16,463,442	Mediterranean Southern Italy	2,073,825	4,573,921
Venetia	8,468,698	18,677,713	Sicily	137,561	303,391
Liguria	152,741	336,870	Sardinia	1,795	3,959
Emilia	2,581,332	5,693,128			
The Marches and Umbria	1,736,536	3,829,930			
Tuscany	1,700,568	3,750,603	Total	41,397,323	91,291,796
Latium	59,036	130,204			

The total yield for the last seven years is exhibited in the following table:

Year.	Kilograms.	Pounds.	Year.	Kilograms.	Pounds.
1880	41,573,189	91,689,668	1885	32,266,017	71,162,700
1881	39,564,091	87,258,003	1886	41,397,323	91,291,796
1882	31,869,076	70,287,247			
1883	41,625,299	91,804,597	Average of the seven years	37,822,808	83,418,203
1884	36,464,663	80,422,814			

From the above it will be seen that if this year's crop is considerably above the average it is nevertheless slightly inferior to that of two years, viz, 1880 and 1883, and the expectation and belief that it would be something phenomenal prove to be unfounded. This latter fact may possibly afford some explanation of the present strength of the silk market.

Italian Silks in France.—Consul Crouch, under date of Milan, November 30, writes as follows:

The Italian Chamber of Commerce in Paris, established by the Italians to further their commercial interests in France, and especially to increase their exports to that country, published recently an interesting report on Italian silks in France, of which the following is an abstract. Parenthetically, it may be remarked that if, following the Italian example, the boards of trade of the principal American cities, and espe-

cially of the manufacturing centers, by concerted action were to establish similar institutions in a few of the chief commercial cities of Europe, American exporters would receive a more efficient and practical assistance than consuls with the best will are able to afford.

Italy, which exports annually into France some $30,000,000 of raw silk, occupies a very different position in the matter of textiles, importing some $260,000 of velvets and $450,000 of black silks and taffetas, as against exports, respectively, of $12,000 and $50,000.

This certainly is remarkable considering—

(1) That weavers receive much lower wages in Italy than in France.

(2) That silks pay no duty entering France, whereas in Italy there is a duty of $1.25 per kilogram (2.2 pounds) on velvets, and 87 cents on black silks and taffetas.

(3) That Italian velvets are regarded in France as of good quality and low price.

(4) That black silks and taffetas are not difficult to manufacture.

Silk velvets are manufactured especially at Zoagli, Rapallo, and Chiavari, all near Genoa. There are a small number of houses engaged in this industry in Genoa, a few at Como, and a few of less importance at Turin. The Genoese houses who could put their productions on the French markets most advantageously, possess large financial means, but lack energy and deal almost exclusively with the Orient and to a small extent with New York. Considering the excellent quality and low price of their velvets their exports to France could be made to reach a high figure.

In black silks and taffetas the chief center is Como, with 8,000 looms. When the great stores of Paris, such as the *Bon-Marché*, the *Louvre*, the *Printemps*, find it profitable to buy certain articles here rather than at Lyons, it would seem that the export to France should amount to millions instead of a couple of hundred thousand dollars, the present figure. The chief reasons for the actual condition of affairs are in the main as follows:

(1) Como does not yet possess a model establishment for dyeing and preparing silks, like those at Lyons.

(2) The houses do not devote themselves to specialties, but each manufactures every class of articles, hence rarely of the best quality.

(3) A lack of care, both as regards material and operatives, so that silks woven from identical materials differ greatly when finished, in thickness, or weight, or in both respects.

(4) There are no banks to afford the manufacturer financial aid.

(5) An absence of common action and mutual assistance on the part of the manufacturers, who do not work together to protect and further their common interests, as is the case in France.

Weight is laid on the correction of these deficiencies, and special attention is called to the fact that silk goods pay no duty entering France. Further recommendations are:

(1) That goods be sold with the carriage paid.

(2) That prices be formed with reference to the discount at Lyons of 15 per cent. plus 2 per cent. for payment at thirty days (exclusive of the month of shipment).

(3) That goods be folded to the meter and not to the yard.

Nail and chain industry of Birmingham.—Consul Joseph B. Hughes, of Birmingham, writes under date of November 17, 1886:

I would take this opportunity of referring to another branch of commerce belonging to this district. I mean that of the nail and chain makers. I find on making inquiries hereabouts that the condition of the poor work-people engaged therein have not materially improved at any period during recent years. At the present time the outlook is gloomy and portentous. On the verge of winter, there is no employment and no certain prospect of any. During the past few days an appeal has been issued by the secretary of the trades federation in behalf of the chain-makers in the South Staffordshire and East Worcestershire districts. There are over 8,000 men, women, and children to be fed, and the means at the disposal of the local association are totally inadequate even to provide bread for one day a week. Sympathy is called for in a substantial way from those who are fortunate in being employed toward their suffering fellow-toilers, who are said to be literally starving for want of food.

Sumac culture in Sicily.—Consul Carroll, of Palermo, Italy, under date of December 6, 1886, writes as follows:

Sumac is planted in Sicily during the months of December or January, as the case may be, and is accomplished by making an aperture 65 centimeters in length, 40 centimeters in width, and 40 in depth in the ground, in which two sumac plants are placed, when the opening is refilled with the clay taken therefrom, being compactly pressed upon and around the plants in question with a view of keeping out all air, after which a mound is made on top to still further protect the plants.

Upon the completion of this process the plants are not disturbed until the beginning of the following May, when the mounds referred to are levelled and the ground adjacent to the plants loosened with an axe. At the end of the following July the leaves on the new tree are cut and thrown away, the growth of the first year being of no use. No leaves whatever are left on the tree.

After the latter process the plants or grounds are not again disturbed until November or December, when the same process as that of the preceding year is resorted to, and again in May, and so on from year to year indefinitely.

The crop matures in July, and is cut by practiced hands, care being taken not to injure the trunk of the tree in any way.

No manure is used. The plant grows in sterile mountains or plains where, as a rule, nothing else save weeds will grow. The seed is not used in reproducing the plant.

Sumac plants sell here, ordinarily, for from about $3 to $4 per 1,000, and can be obtained in the months of December and January.

French apple crop of 1886.—Consul Dufais, of Havre, under date of January 5, 1887, writes as follows:

The French Government has issued the figures of the last apple crop, making it a very short one, viz, 8,300,758 hectoliters (of 2¾ bushels) against 19,945,000 in 1885.

This deficiency is, however, not to be ascribed to a disease of the trees; it seems simply to be of usual occurrence that a small crop follows a large one.

The following are the figures in the different producing departments:

Departments.	Hectoliter.	Departments.	Hectoliter.
Aisne	99,512	Lot	3,200
Allier	15,222	Maine-et-Loire	81,693
Ardennes	31,789	Manche	507,678
Adbe	17,029	Marne	8,797
Aveyron	27,837	Mayenne	389,209
Bouches-du-Rhône	5,550	Morbihan	490,112
Calvados	812,440	Meuse	4,600
Cantal	8,325	Nord	7,632
Charente	4,492	Oise	211,437
Cher	21,238	Orne	552,858
Corrèze	54,474	Pas-de-Calais	32,043
Côtes-du-Nord	774,510	Puy-de Dome	44,788
Creuse	8,687	Pyrénées (Basses)	3,881
Deux-Sèvres	6,582	Pyrenees (Hautes)	2,957
Dordogne	10,490	Sarthe	341,014
Eure	668,288	Savoie	4,925
Eure-et-Loir	82,139	Savoie (Haute)	24,770
Finistère	90,058	Seine-Inférieure	609,744
Ille-et-Vilaine	1,443,290	Seine-et-Marne	77,079
Indre	16,072	Seine-et-Oise	132,421
Indre-et-Loire	10,621	Somme	100,839
Loir-et-Cher	15,283	Vienne	21,385
Loire Inférieure	260,442	Vienne (Haute)	20,029
Loiret	21,593	Yonne	50,333

With three exceptions last year's crop was the poorest in ten years past, the smallest having been in 1880, viz: 5,465,000 hectoliters, whilst the most abundant one was in 1883, or 23,500,000 hectoliters.

The departments which lost most against last year were:

	Hectares.
In Normandy:	
Calvados	1,400,000
Eure	600,000
In Brittany:	
Côtes-du-Nord	700,000
Ille-et-Vilaine	1,822,000
Manche	2,000,000

The advice is given, in view of the prevalence of the vine disease, to increase the culture of apples, not only because the drinking of cider is considered wholesome, but because the demand is steadily increasing.

Unfortunately the late apple crop in the United States has also turned out short, and I am informed that most contracts made in the United States for Havre had to be canceled and forfeit to be paid.

French official statistics make the wine crop also short, and place it at 25,063,345 hectoliters.

Emigration from the United Kingdom in 1886.

Nationalities.	To United States.	To British North America.	To Australasia.	To all other places.	Total 1886.	Total 1885.
English	83,175	18,901	33,802	10,581	146,459	126,260
Scotch	16,849	2,949	4,237	1,328	25,363	21,367
Irish	52,896	2,895	5,046	460	61,297	60,017
Total of British origin	152,920	24,745	43,085	12,369	233,119	207,644
Foreigners	85,533	5,364	997	2,335	94,229	53,783
Not stated	.....	.....	.....	3,540	3,540	2,958
Total 1886	238,453	30,109	44,082	18,244	330,888	.....
Total 1885	184,470	22,928	40,689	16,298	264,385	264,385

Agricultural implements and machinery in the Province of Adana.—Our consular agent, Mr. W. Dawson, at Mersina, writes:

As the country between this, Tarsus and Adana, and for about 80 miles northeast of Adana, is a flat, cultivated plain, it is well adapted for the use of agricultural machinery and implements. Lately an agent of an American firm came here from Smyrna and brought with him some samples of small Johnston's Continental reaping-machines to be drawn by bullocks, and after showing them at work he sold about forty, and for next year's crops I think there will be a greater demand. I have no doubt that a great deal might be done here in American agricultural machines, &c., if the manufacturers would send out samples to show their utility, but this they do not seem very willing to do, as they want to sell against cash in America, and it is impracticable to get orders for machines which are utterly unknown to the people of this country. What they want is to see them at work first. His excellency Raif Pasha, the governor-general of this vilayet, recently called a meeting of the largest landed proprietors here, who offered to sign a contract for threshing their wheat and cutting and bruising the straw, provided some one would send three or four steam threshing-machines, and after seeing them at work, if satisfactory, they would be bought up. The conditions are very favorable, but, as I mentioned before, the American manufacturers do not care to risk sending machines so far away from home to show their working, consequently I am afraid the British manufacturers will step in and take up the trade of which American manufacturers were the first to open up. I have recently received a proposition from an English house offering to send out machines on trial, so that this proves that they have an eye on trade in this country, and are prepared to give more facilities to buyers than the American manufacturers. The great evil is that there is no direct communication between this neighborhood and the United States, and it is very difficult and expensive, as well as a great loss of time, to get goods from America. I am often asked about small American mills for making different grades of flour, as well as other manufactures, but the buyers invariably want to see one work before purchasing. In my opinion many other American manufactures would be bought here if there was anything approaching direct communication and samples sent out.

From an unofficial but quite trustworthy quarter the following statement has been obtained:

"Last year, 1885, an American brought out a light-draft reaping machine, with which experiments were made on the crops of the vilayet (province) of Adana, and so well pleased were the farmers with the work done that during the present year he has sold about 60 of them. Several sets of cotton-dressing and corn-grinding machinery have been sent out lately, but these are, generally speaking, beyond the means of the small landed proprietors, who form the bulk of the population.

"The governor-general of Adana, Raif Pasha, a former minister of public works at Constantinople, encourages, by all the means in his power, this tendency to develop the resources of the province and to improve the lot of his subjects."

Coinage of Mexico.—In transmitting the following tables, Mr. Porch writes:

The following tables contain the accurate money coinage from the foundation of mints, in 1637, in the Republic of Mexico, up to June 30, 1885.

All of the mints of the country, eleven in number, are included. From July 1, 1875, to June 30, 1885, the exact output of each mint is given in detail.

The figures for the fiscal year ending June 30, 1886, could not be obtained, as the reports from the various mints have not yet been compiled, and some have not been heard from, but approximately it may be stated that the coinage is about the same, or perhaps a little greater than the year preceding it:

Table of the money coined in the Republic of Mexico during the period from July 1, 1875, to June 30, 1885, indicating the respective mints.

Years.	Alamos.	Culican.	Chihuahua.	Durango.	Guadalajara.	Guanajuato.	Hermosillo.	Mexico.	Oaxaca.	San Luis Potosi.	Zacatecas.	Total.
Gold.												
1875 to 1876	$6,420 00	$55,920 00	$21,920 00	$19,480 00	.....	$323,900 00	$40,270 00	$284,000 00	$6,760 00	.....	$50,731 50	$809,401 50
1876 to 1877	5,520 00	52,790 00	1,900 00	17,725 00	.....	307,500 00	6,830 00	268,000 00	4,720 00	.....	30,765 00	695,750 00
1877 to 1878	5,235 00	40,923 00	1,100 00	17,410 00	.....	299,000 00	11,730 00	290,000 00	2,880 00	.....	23,720 00	691,998 00
1878 to 1879	13,700 00	49,230, 00	.....	23,935 00	$3,830 00	207,840 00	1,360 00	304,500 00	3,700 00	.....	50,111 00	658,206 00
1879 to 1880	12,120 00	50,536 00	.....	29,570 00	.....	130,600 00	6,970 00	250,000 00	1,070 00	.....	40,960 00	521,826 00
1880 to 1881	23,240 00	47,288 00	.....	30,250 00	4,040 00	136,180 00	7,480 00	220,000 00	5,850 00	.....	17,790 00	492,068 00
1881 to 1882	31,720 00	32,080 00	8,740 00	21,520 00	2,390 00	113,300 00	.....	223,000 00	5,070 00	.....	14,770 00	452,590 00
1882 to 1883	35,600 00	57,860 00	29,640 00	14,950 00	.....	61,500 00	.....	200,000 00	1,700 00	.....	6,350 00	407,600 00
1883 to 1884	38,590 00	27,038 00	8,880 00	4,040 00	.....	43,300 00	.....	183,000 00	1,920 00	.....	21,930 00	328,698 00
1884 to 1885	42,510 00	68,360 00	3,480 00	.....	.....	55,360 00	.....	225,500 00	6,140 00	.....	21,900 00	423,250 00
Totals	214,655 00	481,975 00	75,660 00	178,880 00	10,260 00	1,678,480 00	74,640 00	2,448,000 00	39,810 00	.....	279,027 50	5,481,387 50
Silver.												
1875 to 1876	771,430 50	746,396 50	977,812 00	673,570 00	1,143,380 00	4,301,976 00	410,641 00	3,335,000 00	129,684 00	1,986,500 00	5,027,614 00	19,454,054 00
1876 to 1877	920,114 00	771,412 00	658,264 00	868,195 00	1,321,585 00	4,464,000 00	783,065 50	4,611,000 00	133,929 00	2,091,964 00	4,701,500 00	21,415,128 50
1877 to 1878	1,050,583 75	845,439 00	910,506 00	850,106 75	1,462,960 00	4,525,000 00	866,268 00	4,488,700 00	132,514 00	2,010,126 00	4,942,000 00	22,084,203 50
1878 to 1879	756,508 15	891,951 00	806,025 00	854,882 50	1,413,161 00	4,321,000 00	555,650 00	5,116,000 00	153,610 00	2,519,110 00	4,775,000 00	22,162,987 65
1879 to 1880	852,691 10	917,779 00	949,772 00	898,693 00	1,510,678 75	4,400,500 00	709,885 00	5,586,000 00	134,700 00	2,354,830 00	5,703,000 00	24,018,528 85
1880 to 1881	905,603 20	1,219,082 50	1,178,534 00	977,964 00	1,363,241 30	4,135,250 60	711,250 00	5,691,000 00	142,600 00	2,315,750 00	5,977,000 00	24,617,395 00
1881 to 1882	1,064,431 90	926,713 00	1,345,727 00	1,004,842 00	1,324,394 10	4,291,000 00	492,992 00	6,216,000 00	121,945 00	2,345,215 00	6,013,000 00	25,146,260 00
1882 to 1883	965,285 45	744,283 00	1,605,561 50	874,828 00	1,111,514 00	4,224,000 00	419,460 00	5,635,000 00	97,950 00	3,182,040 00	5,204,000 00	24,083,921 95
1883 to 1884	1,292,940 00	574,944 00	1,927,556 00	1,090,305 00	1,130,003 85	4,385,000 00	530,400 00	6,088,000 00	129,200 00	3,227,030 00	4,993,000 00	25,377,378 85
1884 to 1885	1,023,850 00	641,721 00	2,017,195 50	1,164,822 20	871,199 00	4,974,500 00	280,000 00	6,452,000 00	152,700 00	3,330,740 00	4,982,000 00	25,840,727 70
Totals	9,593,688 05	8,279,721 00	12,376,953 00	9,258,208 45	12,652,117 00	44,022,226 00	5,798,611 50	53,218,700 00	1,328,892 00	25,313,305 00	52,358,214 00	234,200,586 00
Copper.												
1875 to 1876	.....	11,469 63	.....	.....	.....	.....	35 00	13,650 00	.....	.....	5,509 00	30,654 63
1876 to 1877	.....	.....	.....	.....	.....	.....	85 08	8,950 00	.....	.....	.....	9,035 08
1877 to 1878	.....	.....	.....	.....	5,000 00	5,764 00	.....	20,600 00	.....	10,000 00	.....	41,364 00
1878 to 1879	.....	.....	.....	.....	1,500 00	.....	.....	14,800 00	.....	.....	.....	16,300 00
1879 to 1880	.....	.....	.....	1,785 00	.....	.....	.....	12,250 00	.....	.....	.....	14,035 00
1880 to 1881	1,250 00	3,083 84	.....	.....	6,975 00	10,000 00	.....	11,950 00	.....	.....	9,000 00	42,258 84
1881 to 1882	.....	.....	.....	.....	2,972 85	.....	.....	5,000 00	.....	.....	4,000 00	11,972 85
1882 to 1883	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883 to 1884	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884 to 1885	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	1,250 00	14,553 47	.....	1,785 00	16,447 85	15,764 00	120 08	87,200 00	.....	10,000 00	18,500 00	165,620 40

SUMMARY.

1875 to 1876	777,900 50	813,786 13	999,732 00	693,050 00	1,143,380 00	4,625,876 00	450,946 00	3,632,650 00	136,444 60	1,936,509 00	5,083,845 50		20,294,110 13
1876 to 1877	925,694 00	824,202 00	660,164 00	885,920 00	1,321,585 00	4,771,500 00	789,980 58	4,887,950 00	138,649 30	2,091,964 00	4,822,365 00		22,119,913 58
1877 to 1878	1,055,818 75	836,362 00	911,606 00	867,516 75	1,467,960 00	4,829,764 00	877,998 00	4,799,300 00	135,294 00	2,020,128 00	4,963,720 00		22,817,565 50
1878 to 1879	770,298 15	941,181 00	806,025 00	878,817 50	1,418,491 00	4,528,840 00	557,010 00	5,435,300 00	157,310 00	2,519,110 00	4,825,111 00		22,837,493 65
1879 to 1880	864,811 10	968,315 00	949,772 00	930,048 00	1,510,678 75	4,531,100 00	716,855 00	5,848,250 00	135,770 00	2,354,830 00	5,743,960 00		24,554,389 85
1880 to 1881	930,153 20	1,269,404 34	1,178,534 00	1,008,214 00	1,374,256 30	4,281,430 00	718,730 00	5,922,950 00	148,510 00	2,315,750 00	6,003,790 00		25,151,721 84
1881 to 1882	1,096,151 90	958,793 00	1,354,467 00	1,026,362 00	1,329,756 95	4,404,300 00	492,992 00	6,444,000 00	127,015 00	2,345,215 00	6,031,770 00		25,610,822 85
1882 to 1883	990,885 45	802,143 00	1,635,201 50	889,778 00	1,111,514 00	4,285,500 00	449,460 00	5,835,000 00	99,650 00	3,182,040 00	5,210,350 00		24,491,521 95
1883 to 1884	1,231,590 00	601,982 00	1,936,436 00	1,094,345 00	1,130,003 85	4,428,300 00	539,400 00	6,271,000 00	131,120 00	3,227,030 00	5,014,930 00		25,706,076 85
1884 to 1885	1,066,360 00	710,081 00	2,020,675 50	1,164,822 20	871,199 00	5,029,860 00	280,000 00	6,677,500 00	158,840 00	3,330,740 00	4,953,900 00		26,263,977 70
Totals	9,809,542 05	8,776,249 47	12,452,613 00	9,438,873 45	12,678,824 85	45,716,470 00	5,873,371 58	55,753,900 00	1,368,702 90	25,323,305 00	52,655,741 50		239,847,593 90
													239,847,593 90
Coined by the Government during last six months of fiscal year 1882 to 1883, 12,560,000 nickel 5-cent pieces: 15,700,000 2-cent pieces; 31,400,000 1-cent pieces, whose total value is												$1,256,000 00	
From July, 1883, to March, 1884, 27,440,000 5-cent pieces; 34,322,750 2-cent pieces, and 68,554,500 1-cent pieces, whose total value is												2,744,000 00	
													4,000,000 00
Grand total for ten years													243,847,593 90

Table of money coined in the Republic of Mexico since the foundation of the mints in the colonial period up to the end of the fiscal year of 1884 *to* 1885.

Period.	Gold.	Silver.	Copper.	Nickel.	Total.
Colonial epoch.					
1537 to 1731, inclusive....	$8,497,950 00	$752,067,456 54	$200,000 00	.....	$760,765,406 54
1732 to 1771, inclusive....	19,889,014 00	441,629,211 45	.....	.....	461,518,225 45
1772 to 1821, inclusive....	40,391,447 00	888,563,989 45	342,893 87	.....	929,298,329 32
Total.....	68,778,411 00	2,082,260,657 44	542,893 87	.....	2,151,581,961 81
Independence.					
Empire of Iturbide, 1822 to 1823.....	557,392 00	18,575,569 69	.....	.....	19,132,961 69
Republic, 1824 to June 30, 1875.....	46,769,991 00	778,479,511 08	5,272,855 93	.....	830,522,358 01
Total.....	47,327,383 00	797,055,080 77	5,272,855 93	.....	849,655,319 70
Republic, July 1, 1875, to June 30, 1885.....	5,481,387 50	234,200,586 00	165,620 40	$4,000,000 00	243,847,593 90

RECAPITULATION.

Colonial epoch, 1537 to 1821, inclusive	$2,151,581,961 81
Independence, 1822 to June 30, 1875	849,655,319 70
July 1, 1875, to June 30, 1885	243,847,593 90
Grand total	3,245,084,875 41

New Zealand.

Quantity and value of wool and value of timber exported.

District.	Year.	Wool.		Timber.	
		Quantity.	Value.	Sawn timber.	Logs, spars, palings, shingles, and other timber.
		Pounds.	£	£	£
Auckland	1876	2,979,038	175,986	30,083	16,121
	1877	3,111,251	177,100	25,660	24,662
	1878	2,377,313	135,492	20,620	8,318
	1879	2,815,657	130,630	17,171	17,803
	1880	1,702,496	85,019	40,029	10,597
	1881	2,184,563	104,345	63,054	6,209
	1882	2,848,504	122,563	86,142	20,187
	1883	2,761,232	113,036	113,286	24,358
	1884	4,180,079	155,526	112,557	23,547
	1885	5,616,744	186,069	127,463	16,025
Taranaki	1876	1,130	68	300	.....
	1882	.....	.....	120	.....
	1884	.....	.....	701	.....
	1885	.....	.....	104	.....
Hawkes Bay	1876	2,911,130	169,195	585	.....
	1877	5,480,445	333,355	.....	.....
	1878	7,084,455	363,175	.....	.....
	1879	7,093,657	349,830	.....	.....
	1880	9,921,388	513,283	.....	.....
	1881	8,162,315	442,840	.....	.....
	1882	11,670,200	586,421	.....	.....
	1883	9,921,378	421,338	24	.....
	1884	14,192,177	564,804	624	.....
	1885	14,885,469	521,291	2,868	.....
Wellington Bay	1876	10,770,437	624,227	.....	.....
	1877	13,946,610	754,971	70	10
	1878	11,561,513	648,190	.....	.....
	1879	12,783,618	652,628	564	.....
	1880	16,780,878	748,931	.....	307
	1881	12,680,440	576,231	1,525	.....
	1882	11,335,881	488,880	5,797	20
	1883	14,873,736	611,137	8,982	.....
	1884	17,829,468	662,523	8,113	.....
	1885	19,968,516	668,611	5,241	.....

Quantity and value of wool and value of timber exported—Continued.

District.	Year.	Wool.		Timber.	
		Quantity.	Value.	Sawn timber.	Logs, spars, palings, shingles, and other timber.
		Pounds.	£	£	£
Marlborough	1883	.....	.....	246	.....
	1884	67,629	2,448	.....	.....
	1885	.....	.....	500	.....
Nelson	1876	56,261	3,074	365	.....
	1877	15,863	1,359	15	.....
	1878	14,423	811	110	.....
	1879	565	920	.....	.....
	1880	16,174	60	.....	.....
	1881	37,557	2,311	36	.....
	1882	1,650	70	.....	.....
	1883	760	19	.....	.....
	1884	240	6	25	.....
	1885	83,161	3,635	.....	.....
Westland	1876	119,418	6,081	1,285	.....
	1877	107,118	5,472	385	.....
	1878	91,768	4,641	.....	.....
	1879	23,980	905	.....	.....
	1880	9,750	488	.....	.....
	1881	21,700	1,075	.....	.....
	1882	750	31	976	.....
	1883	17,640	512	.....	.....
	1884	25,067	825	234	.....
	1885	10,704	352	.....	.....
Canterbury	1876	20,305,217	1,099,736	.....	.....
	1877	17,101,431	961,874	.....	.....
	1878	15,882,944	910,164	.....	.....
	1879	15,953,193	885,944	.....	.....
	1880	16,126,702	707,076	.....	.....
	1881	14,410,695	652,458	.....	.....
	1882	16,725,605	786,531	.....	.....
	1883	17,352,379	748,082	937	.....
	1884	21,333,720	848,304	1,705	.....
	1885	23,597,041	886,588	2,482	.....
Otago	1876	22,710,822	1,317,449	1,108	.....
	1877	24,719,111	1,404,807	99	.....
	1878	22,257,840	1,230,384	1,026	.....
	1879	22,934,581	1,155,576	197	.....
	1880	22,368,871	1,114,443	292	.....
	1881	21,898,670	1,124,805	504	.....
	1882	22,740,117	1,184,058	1,458	.....
	1883	23,222,305	1,120,187	1,473	.....
	1884	23,510,648	1,031,096	4,965	.....
	1885	22,345,790	938,129	2,697	.....
Total	1876	59,353,454	3,395,816	49,847	
	1877	64,481,324	3,658,938	50,901	
	1878	59,270,256	3,292,807	39,074	
	1879	62,220,810	3,126,439	35,735	
	1880	66,360,150	3,109,300	51,225	
	1881	59,415,940	2,909,760	71,328	
	1882	65,322,707	3,118,554	114,700	
	1883	68,149,430	3,014,211	149,256	
	1884	81,139,028	3,267,527	152,471	
	1885	86,507,431	3,205,275	157,380	

Misnaming of Dutch Cattle in the United States.—Consul Eckstein, of Amsterdam, in a report on Dutch cattle, writes as follows on the subject of misnaming these cattle in the United States:

It may be proper that I should allude to the fact that in the United States there prevails a practice of writing and speaking of certain or all breeds of Dutch cattle as "Holsteins." So doing seems to be very annoying to farmers, stock-raisers, and to other parties in this country, as there exists no breed of cattle and never did, as I am informed in Holland, named "Holsteins."

If notice would be taken of this matter, and the practice referred to discontinued, it would be greatly appreciated by a large number of people here.

REPORTS

FROM THE

CONSULS OF THE UNITED STATES.

No. 75.—MARCH, 1887.

WASHINGTON:
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1887.

381 A—No. 75

CONTENTS.

Page

AUSTRALIA:
Tariff and customs regulations of New South Wales 631
Victoria and New South Wales 652
CHINA:
Taxation of petroleum in 558
Trade of Shanghai 682
CUBA:
Sugar interests 659
DENMARK:
Crops 685
Fodder purchases in 625
EGYPT:
Petroleum fields, development of 555
ENGLAND:
Exports from Bradford to the United States, 1867-'86 684
Mediæval art work in Birmingham 561
Pugin's crusade, 561—The Hardmans, 561—Metal work, 562—Wrought iron, 563—Stained glass, 564—Process, 566.
The price of gas and its cost of production 535
Comparative workings, 535—Cost and value of residuals sold, 538—Manufacturing charges, 538—Wages of stokers, 539—Causes which led to the reduction in price of gas, 539—Dividends, 540—Control, 540.
White-lead industry of Sheffield 583
FRANCE:
Manufacture of white lead 567
Production of lead in Europe, 567—In France, 569—Separating lead from the ore, 571—White lead, 572—Dutch process, 573—French process, 576—Lille works, 578—Various processes, 578.
Winter-wheat crop 682
GERMANY:
Leipsic leather exchange 604
Leipsic culinary exposition 606
Cheap food, 606—American meats, 607—Cooking-stoves, 607—Wines, 608—Other exhibits, 608.
Mechanical (power) and hand looms in silk industry 611
Modern methods of restoring to original productiveness "worn-out soil" .. 541
Problem to be solved, 541—Experiments of Professor Sachs, 542—Stable manure, 543—Fertilizing properties in crucible linings and slag, 544—Artificial manures, 544—"Thomas" fertilizer, 545—Science and agriculture in the future, 546—Agricultural instruction in special and common schools, 548.
Basic slag as a manure 678
Prices in Duchy of Hesse 615
Profit and loss of the German joint-stock companies 609
Vintage on the Rhine 613
GREECE:
Cattle imports 683
Petroleum trade 683
HAWAIIAN ISLANDS:
Exports, 1885-'86 683
ITALY:
Manufacture of white lead 580
White lead in Genoa 582

Page.

JAPAN:
Land tenure in 626
American trade with 630
MEXICO:
Depreciation of Mexican silver 667
Mercantile crisis and depreciation of silver 672
NETHERLANDS:
Prison system of 616
NICARAGUA:
Fruit interests of 660
Bananas, 660—Prices, 663—Season for shipment, 664—Varieties of fruits, 664—Transporting fruit, 665—Cocoanuts, 666—Freights, 667.
PERU:
Mining exposition 684
RUSSIA:
Petroleum trade 549
Increased exports, 549—Russian petroleum in India, 549—Russia as a competitor to the United States, 550—Facilities for transportation, 551—Pipe line, 552—Signs of exhaustion, 552—Bibi-Eibat well, 553—Exports of petroleum from Batoum, 1885-'86, 554.
SCOTLAND:
American butter and cheese in 597
Kilmarnock cheese fair, 597—American cheeses, 598—Sizes and shapes of cheeses, 598—Canadian cheeses, 598—Butter, 599.
Farm rents 602
Ship-building, and protection of seamen 584
Reports from ship-builders, 585—Navigation in Scottish ports, 588—Wages of British and foreign seamen, 589—Crimping, 592—Advance pay, 594.
SOUTH AFRICA:
Natal customs tariff 657
SWITZERLAND:
Forestry in the Canton of Vaud 620
Areas of forests, 620—Common forests, 621—Organization of Government bureaus, 621—Revenues and profits of Government forests, 621—Forest culture, 622—Destruction of forests, 622—Reclamation of waste lands, 622—Lumber supply, 623—Dealers in seeds and shoots, 623.
Knit-goods industry 624
VENEZUELA:
Duties on macaroni 684
Duties on toys 684
Petroleum development in 556
Index to Consular Reports Nos. 73-75 ..... **687**

CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 75.—MARCH, 1887.

THE PRICE OF GAS AND ITS COST OF PRODUCTION IN ENGLAND.

REPORT OF CONSUL SCHOENHOF.

I read of a process having been patented in the United States of making gas from coal oil by which it is claimed 1,000,000 cubic feet of gas can be produced from one barrel of oil, besides leaving the oil intact for all its original purposes. Although this would admit of the conclusion that the present manufacturing process of gas is in danger of being superseded by the new invention; yet, judging from experience, it is safe to suppose that the procrastinating influences of our chartered gas companies will be able for some time to come to exact exorbitant rates from consumers in most of our American cities, and that very early relief must not be expected through the influence of the above-mentioned great invention. The figures of the small cost of gas-making in Great Britain and the low prices charged to consumers which I have been collecting with the assistance of Mr. Herman Tapley, the able engineer and manager of the gas-works of the corporation of Stoke-upon-Trent, may therefore not come too late and perhaps serve yet a useful purpose to many of our consumers.

Comparative working at the Stoke Gas-Works, the 3 metropolitan, 12 suburban, 10 provincial companies, and 9 provincial corporation gas-works.

Works.	Loan and stock capital.			Coal carbonized.	Price per 1,000 feet charged.	Gas made.	
	Amount.	Per ton of coal.	Per 1,000 cubic feet sold.			Cubic feet.	Cubic feet per ton.
	£ s. d.	£ s. d.	s. d.	Tons.	s. d. s. d.		
Stoke works	64,235 19 2	8 0 2	18 4	8,019	2 3 to 3 6	80,303,000	10,014
Average of 15 metropolitan works	16,174,904 0 0	6 7 6	13 4½	2,650,393	2 8 5 0	27,243,387,000	10,313
Average of 19 provincial works	13,244,507 0 0	5 18 7	12 10	2,211,115	1 10 3 3	22,111,212,000	10,023

Comparative working at the Stoke Gas-Works, &c.—Continued.

Works.	Gas sold.			Gas used on works.		Gas unaccounted for.	
	Cubic feet.	Cubic feet per ton.	Per cent. on make.	Cubic feet.	Per cent. on make.	Cubic feet.	Per cent. on make.
Stoke works	70, 040, 000	8, 734	87. 21	780, 000	. 97	8, 483, 200	11. 82
Average of 15 metropolitan works	25, 395, 186, 000	9, 570	92. 79	321, 282, 000	1. 18	1, 525, 919, 000	6. 03
Average of 19 provincial works	20, 871, 932, 000	9, 237	82. 25	212, 558, 000	. 94	1, 537, 722, 000	6. 9

Works.	Miles of mains.	Gas sold per mile.	No. of consumers.	Gas sold per consumer.	No. of lamps.	Gas per lamp.
		Cubic feet.		*Cubic feet.*		*Cubic feet.*
Stoke works	23	3, 045, 217	1, 940	29, 978	518	22, 940
Average of 15 metropolitan works	3, 756	5, 598, 555	344, 618	61, 430	82, 638	19, 750
Average of 19 provincial works	4, 520	4, 023, 500	518, 428	33, 797	91, 058	16, 542

Works.	Coke made.				Average price per ton of coke sold (less cartage).	Tar made per ton of coal.
	Quantity.	Per ton of coals.	Used for fuel.	Per cent. on make.		
	Tons.	*Cwt.*	*Tons.*		*s. d.*	*Gallons.*
Stoke works	5, 012	12½	1, 942	38	5 9. 70	9. 77
Average of 15 metropolitan works	1, 580, 670	12	366, 320	23	11 6. 58	10. 45
Average of 19 provincial works	1, 317, 294	12	460, 090	35. 5	5 7. 32	12. 3

Items.	Stoke works.	Average of 15 metropolitan works.	Average of 19 provincial works.
Coal:	£ s. d.	£ s. d.	£ s. d.
Total amount	3, 021 9 11	1, 778, 367 0 0	1, 216, 525 0 0
Per ton	7 6. 42	14 4. 56	11 1. 33
Per 1,000 feet made	9		
Per 1,000 feet sold	10. 35	1 6. 03	1 2. 02
Less residuals:			
Coke and sundries:			
Total amount	965 19 6	672, 013 0 0	238, 403 0 0
Average per ton of coal	2 4. 92	5 4. 01	2 2. 51
Average per 1,000 cubic feet sold	3. 31	6. 69	2. 86
Tar:			
Total amount	421 5 4	145, 268 0 0	210, 784 0 0
Average per ton of coal	1 0. 6	1 3. 88	1 10. 65
Average per 1,000 cubic feet sold	1. 44	1. 65	2. 45
Ammonia:			
Total amount	381 18 9	184, 986 0 0	176, 558 0 0
Average per ton of coal	11. 43	1 3. 11	1 6. 83
Average per 1,000 cubic feet sold	1. 31	1. 57	2. 04
Total residuals:			
Amount	1, 769 3 7	1, 002, 267 0 0	625, 709 0 0
Average per ton of coal	4 4. 95	7 10. 96	5 7. 99
Average per 1,000 cubic feet sold	6. 06	9. 92	7. 36
Net for coals:			
Amount	1, 252 6 4	776, 100 0 0	590, 816 0 0
Per ton	3 1. 47	6 5. 60	5 5. 34
Per 1,000 feet sold	4. 29	8. 11	7. 06
Manufacturing charges:			
Carbonizing, purifying, wages, salary, trade bills, &c.	2, 152 19 10	926, 462 0 0	653, 372 0 0
Per ton of coal	5 4. 44	7 2. 58	5 11. 66
Per 1,000 feet sold	7. 38	9. 04	7. 74

Comparative working at the Stoke Gas-Works, &c.—Continued.

Items.	Stoke works.	Average of 15 metropolitan works.	Average of 19 provincial works.
Distribution:	£ s. d.	£ s. d.	£ s. d.
Wages, wear and tear, trade bills	853 16 5	190,223 0 0	132,848 0 0
Per ton of coal	2 1.55	1 5.65	1 2.24
Per 1,000 feet sold	2.92	1.84	1.54
General management:			
Clerks, general charges, &c	880 2 10	127,240 0 0	94,993 0 0
Per ton of coal	11.37	1 5.45	10.83
Per 1,000 feet sold	1.8	1.82	1.16
Taxes:			
Amount	581 14 2	189,391 0 0	105,251 0 0
Per ton of coal	1 3.52	1 5.56	11.5
Per 1,000 feet sold	1.78	1.84	1.24
Bad debts:			
Amount	33 1 11	22,676 0 0	7,424 0 0
Per ton of coal	0.99	2.14	0.82
Per 1,000 feet sold	0.11	0.22	0.09
Total working expenses:			
Amount	3,938 15 2	1,495,433 0 0	996,192 0 0
Per ton of coal	9 9.88	12 0.38	9 1.21
Per 1,000 feet sold	1 1.15	1 3.08	11.81
Coal and working expenses (less residuals):			
Amount	5,191 1 6	2,271,533 0 0	1,587,008 0 0
Per ton of coal	12 11.36	18 5.98	14 6.55
Per 1,000 feet sold	1 5.79	1 11.19	1 6.87
Gas rental:			
Amount	10,689 9 2	3,790,028 0 0	2,475,505 0 0
Per ton of coal	1 6 7.92	1 10 1.09	1 2 6.29
Per 1,000 feet sold	3 0.63	3 1.73	2 5.25
Per ton (less lighting)	7.97	6.22	6.32
Per 1,000 feet (less lighting)	0.91	0.65	0.68
Net for gas	10,423 0 3	3,732,791 0 0	2,418,149 0 0
Net per ton of coal	1 5 11.95	1 9 6.87	1 1 11.97
Net per 1,000 feet sold	2 11.72	3 1.08	2 4.56
Expenditures for gas:			
Coal and working expenses	7,268 9 6	2,271,533 0 0	1,587,008 0 0
Per ton of coal	18 0.29	18 5.98	14 6.55
Per 1,000 feet sold	2 0.79	1 11.19	1 6
Profit on gas:			
Gross amount	5,410 6 9	1,444,775 0 0	879,436 0 0
Per ton of coal	13 5.93	11 2.86	7 10.45
Per 1,000 feet sold	1 5.68	1 1.59	10.24
Net amount (for rates) after dividend on stock and interest on taxes have been paid	2,449 0 4	.....	147,740 0 0
Per ton of coal	6 1.3	.....	2 4.08
Per 1,000 feet sold	8.39	.....	3.10

The works referred to in the statement are as follows:

Works.	Rental.
Metropolitan:	
Gas-Light and Coke	£2,401,404
Commercial Company	232,992
South Metropolitan	643,301
Total	3,277,697
Suburban:	
Barnet	10,762
Brentford	138,811
Bromley	20,984
Colney Hatch	7,005
Croydon	52,397
Crystal Palace	87,913
Lea Bridge	11,931
Mitcham	24,457
Richmond	23,201
Tottenham	38,609
Wandsworth	37,451
West Ham	67,910
Total	521,431
Provincial corporations:	
Birmingham	332,145

Works.	Rental.
Provincial corporations—Continued.	
Bolton	£71,730
Halifax	38,083
Leeds	127,398
Leicester	89,713
Manchester	355,778
Nottingham	145,061
Oldham	88,801
Salford	114,198
Total	1,362,907
Provincial companies:	
Bath	39,317
Brighton	116,491
Bristol	131,904
Derby	40,501
Liverpool	375,807
Newcastle on Tyne	110,203
Plymouth	39,074
Portsea	65,163
Preston	53,572
Sheffield	140,566
Total	1,112,598

The prices charged to consumers average, as will be seen from the statement, per 1,000 feet sold, for Stoke, 3*s.* 0.63*d.* (73.26 cents); metropolis, 3*s.* 1.73*d.* (75.46 cents); and provincial corporations, 2*s.* 5.25*d.* (58.50 cents only).

The value of residuals sold is great enough to make a very perceptible saving in the cost, and on each 1,000 feet compares as follows in the different columns:

Cost of coal and value of residuals sold, and net cost of coal in 1,000 *feet of gas after deducting the value of residuals.*

Items.	Stoke works.	Fifteen metropolitan works.	Nineteen provincial works.
	Cents.	*Cents.*	*Cents.*
Cost of coal per 1,000 feet sold	20.70	36.06	28.84
Value of coke sold	6.61	13.38	5.72
Value of tar	2.88	3.30	4.90
Value of ammonia	2.62	3.14	4.08
Value of all residuals	12.11	19.82	14.70
Net cost of coal	8.59	16.24	14.14

The cost of coal is lowest in the Stoke district in consequence of the near neighborhood of the coal mines, and highest, naturally, in London, where gas-coal prices are not different from prices in New York, and for many other purposes higher even. A compensation for this relatively higher cost of coal in London and provincial works is in the somewhat higher prices obtained for residuals.

The manufacturing charges, expenses, taxes, summarized, are, on 1,000 feet sold, as follows:

Manufacturing charges.	Stoke.	Metropolitan	Provincial.
	Cents.	*Cents.*	*Cents.*
Carbonizing, purifying, &c., wages and trade bills	14.76	18.08	15.48
Distribution:			
Wages, wear and tear, &c	5.84	3.68	3.08
General management	2.06	3.64	2.32
Taxes	3.56	3.68	2.48
Bad debts	—.22	—.44	—.18
	26.44	29.52	23.54
Net cost of coal	8.59	16.24	14.14
Total cost of 1,000 feet of gas in England	35.03	45.76	37.68
Selling price	73.26	75.46	58.50
*Gross profit remaining	38.23	29 70	20.82

*The totals do not exactly tally with the itemized figures of the general statement submitted. The totals of the statement cover a few unitemized charges. As the differences are only fractions of cents, it is not worth while to get them enumerated for harmonizing the two tabulations.

Out of this gross profit dividends of stock and loan capital and amortization expenses are paid where the companies are stock companies. Of works owned by town corporations, the surplus, after these charges are covered, is paid over to the town treasury for rates. In Stoke this net profit over and above interest and capital charges amounted in the last year per 1,000 feet of gas to 16.78 cents, and in the provincial towns to 6.20 cents. In these latter, however, the selling price is so much lower as to cover nearly this difference in the amount paid over

for rates. The total amount thus paid over in a gross income from gas of $52,020.25 was $11,918.14, or 23.9 per cent. on the turnover for Stoke, and from the provincial companies on an income from gas of $12,047,044, $718,977, or 5.96 per cent., on the turnovers was realized for the same period and purposes. I have not been able to ascertain that the gas meters possess the rare intelligence of stubbornly registering in favor of the companies employing them, regardless of the endeavors of consumers of gas at economy in the use of it. That all meters are tested by the Government inspector seems, however, to secure correct registering. All larger towns have a regular Government inspector whose duty it is to test and put a seal on all meters before they are given into use.

The Stoke Gas-Works employ about 50 men in winter and 40 in summer. The pay-roll averages as follows:

STOKERS.

2 leading-men, each per week	$7 78
2 second men, each per week	7 29
12 ordinary men, each per week	6 81
14 odd laborers	4 86
1 yard foreman	8 51
1 blacksmith	6 32
2 gas-fitters	6 56
1 main layer	6 56
1 inspector	5 83
1 bricklayer	7 29
2 coal-men	7 29

In large cities, like London, the wages would be somewhat higher. Common laborers would command about the same amount of pay, but all others from 10 to 15 per cent. more.

CAUSES WHICH LED TO THE REDUCTION IN PRICES OF GAS.

The price of gas used to range in former times, when prices were at the highest, as high as 40*s.* per 1,000 feet in some localities, and averaged for the Kingdom about 15*s.* Now, through improvements of all kinds, the average is not more than 3*s.* But this cheapening of price has led to such an increase of consumption that gas stock is considered one of the safest investments (only disturbed through the period of the great scare arising from the impending introduction of electric lighting), and the savings and cheapening of production, in which that scare also served a very useful purpose, have been so great that it is of the best dividend-paying sources of income to holders of securities now. The main features in the cheapening of production are probably well known to all interested in the manufacturing process in America, but for the information of consumers I will briefly allude to the causes leading to cheaper manufacture, as also to other influences which made great monopolies gracefully yield to the urgent demand for lower prices, and still find an unmistakable advantage even in the cheapening of rates and markedly declining prices.

By the general introduction of clay retorts the system of carbonization has been materially improved, and the yield of gas from a given quantity of coal has been increased, it is stated on good authority, at least 20 per cent. With iron retorts the average yield was about 8,500, whereas with clay retorts it is 10,500 feet per ton of coal carbonized, which is accompanied with a considerable reduction in the fuel account, as well as in the expenses of labor and wear and tear of the apparatus. With the increasing dimensions of the apparatus the proportionate cost has been reduced, as it does not cost near as much to construct apparatus of present size as when a larger

number were required for the same result. The magnitude of works has increased at least tenfold, and of course the consumption has followed in the same rate. The "unaccounted" for gas by leakage, which was then estimated at from 25 to 30 per cent., is now on the average not more than 7 or 8 per cent., and in some cases as low as 4½ per cent. The value of the residuals, and particularly ammonia, is properly appreciated, and that which was formerly allowed to flow to the sewer or sea, constitutes an important item in the profits of a company.

In the tabulated statement upon which these remarks are based the value of tar and ammonia alone (not speaking of the other savings, coke, &c.) amounted in the nineteen provincial works, with a loan and capital account of £13,244,507, to £378,306, or 2.85 per cent., in itself a profit rate satisfactory in many another investment when income rates on safe investments are so low as they have ruled during the last few years of declining prices and profit and capital depression.

Aside from this, however, there were other causes actively leading in the line of declining prices in gas. The old companies started mostly on a 10 per cent. dividend charter. They are compelled by act to reduce their prices to the consumers whenever their profits show over and above the legal limit, the prices varying of course according to the price of coal as influenced by the greater or lesser distance from the coal-fields, greater illuminating power of the gas, &c. When companies applied for extension of privileges to Parliament in the necessities growing out from increasing demand or new lines to be laid, &c., there was always a tendency at work to reduce the maximum price in order to insure the passage of the bill. The companies have in this manner been brought to reduce the price, independent of that natural tendency to meet the public wish, by economizing and adopting improvements, and thus reduce the cost. Or, rather, the former cause quickened them in the adoption of methods of saving and improving which would perhaps not have operated quite so powerfully without this pressure. An important part in the downward pressure exercised on the price of gas has been the sliding scale and the auction clause. On every reduction from one penny to two pence, according to their charters, which the companies can make from the price they are allowed by Parliament to charge as their maximum price an additional ¼ per cent. on the regular dividend is granted them to declare. This applies very markedly in cases of companies asking for an extension of privileges and of the numerous companies who have adopted the auction clauses. By these stock is put up at public auction and usually realizes considerably above the nominal amount. The companies thus obtain additional capital from the higher value they realize from the stock than the nominal rate. The rate of dividend allowed now varies from 5 to 7½ per cent. on the par value of the stock. An incentive is thereby given to reduce the cost of production and thereby be able to reduce the cost to the consumer, as by this means alone additional dividends can be earned, which in turn lead to the possibility of enhancing the capital value of the stock.

Statements have to be made annually to the clerk of the peace of the county for companies, and returns must also be made now to the Government by corporations and companies likewise. Any one of the gas consumers by paying one shilling can obtain a copy of a balance sheet, which none of the companies would refuse for fear of being summoned before a magistrate, many of which cases are on record. Any corporation of a town or on the application of two consumers the court of quarter sessions may appoint an accountant to examine the accounts, and if it is found that the earnings are above the legal dividends, then the surplus must be applied to reduction in the price of gas. It need not be said that very heavy penalties are imposed on any one making false

statements. The declaring of unearned dividends for stock-jobbing operations, or the covering of excessive profits beyond the chartered rate and evading thereby compulsory price reduction by a watering of stocks, are risks too great to be undertaken in England by any company.

J. SCHOENHOF,
Consul.

UNITED STATES CONSULATE,
Tunstall, February 7, 1887.

MODERN METHODS OF RESTORING TO ORIGINAL PRODUCTIVENESS "WORN-OUT SOIL."

REPORT OF CONSUL POTTER.

Since the publication of No. 66 of the Consular Reports, which embraced a report from this consulate on "Agriculture in Germany," many communications have been received asking for certain explanations and for additional information upon various branches of the subject. One correspondent, among others, who refers to "worn-out land," says:

> I am anxious of knowing the method by which land that has been worked for ages is made more productive than when first it came from the hand of nature. Our land in Virginia, though not worked three centuries, is "worn out," and eight bushels of wheat per acre is a good yield. Will you be kind enough to give a detailed account of the manner in which Prussian farmers prepare such ground with a view of obtaining good crops? In tide-water Virginia we have every advantage of climate and location. With the same knowledge of farming as is shown from your report to be possessed in Prussia, it would be a country of great wealth instead of poverty.

A careful examination of the report referred to would, I think, have given most of the information asked for. However, I have had further conferences with obliging Prussian scientific and thoroughly practical farmers, with a view of obtaining additional data, and these, with such suggestions as occur to me, are herewith communicated.

Any land which has for a long period of time been required to produce certain plants—like wheat, for instance—will, without being regularly supplied with the particular fertilizing substances which such plants have taken out of it, relapse, of course, into a non-producing condition, and be regarded as "worn out." That is to say, certain elements vital to particular kinds of plant life have been constantly drawn from the virgin soil, and none of those elements have been restored to it. The natural consequence is that after long-continued planting in the same soil of the same kind of plants their sources of life are exhausted, and their future existence becomes weak and unproductive, and but for the meager amount of nitrogenous nourishment which they draw from the atmosphere they would wither and die outright. The soil is hastened into this condition when the same kind of crops are for successive years planted in it, without alternating with crops of a different nature, in accordance with the rotation system described and recommended in the previous report mentioned.

This system of lazy farming is, at this date, by intelligent Prussian farmers, designated "*Raub-Wirtschaft*" (robbing the soil). It was, however, practiced in Prussia until the population became so numerous and the arable acres of the Kingdom so weak in productive elements

that they would no longer produce food enough to support her own people. Then, through the force of necessity and under Governmental encouragement, the owners of the soil began to think. Some of them were wise enough to conclude that nature had been liberal and performed her work well in providing for them, to begin with, a prolific virgin soil in good condition. How to maintain it in that condition, and how to restore its productive elements when they were exhausted, was a natural problem. Where did "the hand of nature" find her productive materials, and what were they? To seek them where nature found them was a common-sense thought. From thinking comes culture, and from culture investigation and a knowledge of practical sciences, and these revealed the fact that above, around, and under the soil exist all the elements and substances which are necessary, if wisely utilized, to maintain its productive qualities for all time.

The experience and persevering trials and tests of progressive Prussian farmers, aided by the discoveries which the study of natural philosophy in the excellent agricultural and technical schools of Germany have brought to light, has so simplified and rationalized the business of farming that, without the interference of weather which is exceptionally unfavorable, they are such thorough masters of their land that they can plant any desired crop and feel certain that the soil will satisfy their expectations, and produce a yield which they can accurately measure in quantity before the seed is put into ground.

How to restore exhausted soil to its primitive fruitfulness is with them no longer a problem. The process is so simple that it need only be stated to be understood: Restore to it the elements taken from it by the crops it once produced. The knowledge of what these elements are, and how and where to obtain or produce them, is also accessible to any one who may desire to inquire into the subject. The amount and kind of substance taken from the soil, stated in weight or measure, and the amount and kind necessary to be restored to it, can also at this date be readily ascertained.

EXPERIMENTS OF PROFESSOR SACHS.

The accuracy of this statement has been amply demonstrated by the remarkable results obtained from trials and experiments made by the celebrated botanist Professor Sachs, at Würzburg, who planted seed in slackened or decomposed pumice-stone and also in pure quartz sand, in neither of which was there a single atom of nutritious substance of any kind, and he raised therein a great variety of plants that had a strong, healthy, and exuberant growth, by simply mixing with the sand small quantities of such mineral substances only, in the form of soluble salts, as each plant required.

Professor Sachs, in making these interesting experiments, dissolved in one quart of water, first made perfectly pure by distillation, 1 gram of nitrate of potassa (niter or saltpeter), one-half gram of sulphate of lime (gypsum or plaster), one-half gram of magnesia, one-half gram of phosphate of lime, one-half gram of chloride of sodium (common salt), and 1 drop of perchloride of iron.

Had any one of these substances been omitted in the combination the plants would not have grown, or they might have had a short, sickly existence and died soon after germinating.

These successful experiments, which can be conducted just as well upon a ten-acre field as in a flower-pot, show that, in addition to the nourishment which plants receive from the atmosphere (carbonic acid,

which prevails everywhere) and water (which is supplied by rain and snow), the soil in which they grow, to be bountifully productive, must also be supplied with nitrogen, phosphoric acid, potash, lime, magnesia, sesquioxide of iron, and sulphuric acid. These are the nourishing properties of all crops. A part of them, however, will give the farmer no concern, as experience and careful observation prove that nature has supplied all soils with iron, magnesia, sulphuric acid, and lime in quantities sufficient to support any kind of crops, with the exception, perhaps, of clover and a few less important and kindred plants, which require the presence of lime to an extent which would be superabundant for other crops.

Should the farmer, when preparing his fertilizers, from carelessness, indifference, or forgetfulness omit any one of the three substances named which are not contained in the soil, namely, nitrogen, phosphoric acid, and potash, he might as well omit them all, for the reason that the others will be inefficient and the crop derive little advantage from them. The desired results are produced by the chemical effects of the combination. Each substance is lifeless and refuses to act without the presence of the others. As an illustration of the necessity of a chemical combination of certain elements with a view of producing particular effects, those of saltpeter, sulphur, and charcoal may be mentioned. These are dull and inactive substances when separated, but when united in proper proportions they become gunpowder, possessing a vitality and energetic force which cannot be measured by human calculations.

What the so-called "worn-out land" of Virginia and elsewhere needs is, therefore, nitrogen, phosphoric acid, and potash. It is a rare circumstance to find land that contains these substa ces in quantities and distributed in such proper proportions as will nourish crops for a long series of years. The rich prairie lands of the "great West," where such elements have been accumulating and resting for unnumbered centuries, are exceptions, but, by and by, the diminishing product of even these fertile regions will show that these three vital elements to vegetable life are being exhausted, and that unless they are recuperated with a fresh artificial supply they will become as barren as those of Virginia.

The most simple method of restoring vigorous productive life to "worn-out land" is by the liberal application of good stable manure. This contains in desired proportions all the particular chemical ingredients referred to as being indispensable. If the occupants of the stable and stalls are meagerly fed with poor food the value of the manure is much diminished. The quantity of stable manure needed depends, therefore, upon its quality. The bedding of animals also contains such organic substances as form the so-called "humus" or vegetable loam, and which keeps the soil loose and mellow and draws to it moisture and warmth. But for the purpose of restoring to permanent productiveness large areas of "exhausted land," stable manure is too expensive, and cannot be obtained in sufficient quantities. If such soil is "humus"—that is to say, if it is composed largely of loam, or decomposed vegetable matter—fertilizing with stable manure is no better, perhaps not so good, as the modern less expensive and more convenient form of fertilizers which are composed of nitrogen, phosphoric acid, and potash. These substances are stored in inexhaustible quantities among rocks in the form of decomposed salts, and can be readily obtained and cheaply converted into food for vegetation by establishments which are equipped with machinery and appliances suitable for the purpose.

Nearly all ores, especially iron ores, are rich in phosphoric acids and other valuable substances essential to plant life, but these must, of course, be separated from the iron before they can be utilized for fertilizing purposes. This is done to a certain extent at all of the great iron and steel manufacturing establishments throughout the country which separates the metal from the ores.

FERTILIZING PROPERTIES IN CRUCIBLE LININGS AND SLAG.

The slag or waste which is removed from furnaces after the iron has been drawn off, as well as the great mass of linings in the crucibles, which have held melted steel and iron, contains very valuable and intensive fertilizing material. These linings are composed of lime and fire-brick—which become waste after being once used—and are intended to purify the metal by absorbing all the phosphoric acids contained in the crude iron. Such linings are, therefore, much richer in phosphoric acid than the common furnace slag. The materials composing the crucible linings, after they have been once used, consist of magnesia, alumine, alkali, and phosphate of lime, which contains about 24 per cent. of phosphorus, which has been absorbed from the melted steel and iron. The cast-off linings of these crucibles contain, therefore, the precise elements which are necessary to restore "worn-out land" to its original productiveness. This waste material needs only to be pulverized, or ground, and is then ready for use, and should be applied to the soil unmixed with other manures.

Furnace slag contains the same fertilizing materials, but not in a form so concentrated and convenient for use, and is more difficult and expensive to obtain.

The substances, therefore, which the Virginia farmer needs to make his "exhausted soil more productive than when it came from the hand of nature," may be seen near the great iron and steel manufactories in Pennsylvania and Virginia in the form of mountains of slag and other débris which has been carted away after the metal has been separated from the ores. If these huge piles of "waste" were properly manipulated and the product used by the discouraged owner of "worn-out" land, his barren fields could be made to "blossom like the rose," and yield him in fruit a bountiful reward for his toil. He would also learn that, in producing 25 bushels of good wheat per acre, the investment in labor and cost would be no greater than that bestowed on an "8 bushel per acre" crop of poor wheat. In addition to his gain in quantity and quality he would secure a large saving in patience and anxiety, and all causes for irritation would disappear as well as temptations to break some of the ten commandments. His words and manners would become pleasant, his deeds generous, and his rank in the community be that of a progressive, agreeable, and prosperous man and neighbor; and finally, he would conclude that the world and nature had provided, even for the owner of "exhausted soil," infinite sources of happiness, and that life was not so much of a tug as he had supposed.

ARTIFICIAL MANURES.

In Prussia there are many establishments for the manufacture of artificial manures, which are extensively used by farmers, and which can be purchased in the markets at very reasonable prices. The best known of these are the superphosphates, and, of more recent date, the "Thomas slag," which is prepared from the refuse of iron and steel works. This

is a new discovery, and is pronounced as superior to all artificial fertilizers, while it is very much cheaper. Chili saltpeter is regarded as the best form of nitrogen. Salts of ammonia (chlorate of ammonia) are prepared from the waste of various industries, and are brought into the market at low prices. Potash is found in large quantities in and around salt works, and is obtained at reasonable rates under different names, the best known of which is "Kainit."

The different kinds of phosphates in use in Prussia, the elements composing them, and the prices at which they are sold, are as follows:

Ammonia superphosphate, containing from 1 to 9 per cent. of nitrogen, and from 7 to 12 per cent. of phosphoric acid, is sold, according to quality, in the market at from $19 to $42 per ton of 2,240 pounds. The grade, or quality, is fixed by official inspection.

Guano superphosphate, without nitrogen, containing from 16 to 20 per cent. of phosphoric acid, has a market value of $23 to $28 per gross ton, according to quality, as determined by inspector's certificate.

Common superphosphate, without nitrogen, containing from 12 to 20 per cent. of phosphoric acid, is sold at $15 to $27 per gross ton.

Bone manure, containing from 4 to 4½ per cent. of nitrogen, and about 20 per cent. of phosphoric acid, is marketable at $31 to $34 per gross ton.

"Thomas'" fertilizer (schlacke, or slag), containing from 22 to 24 per cent. of phosphoric acid, can be purchased in unlimited quantities for $8 per gross ton. If 5 pounds of saltpeter are added to every 100 pounds of Thomas's fertilizer it will be fully equal to the best bone manure and can be purchased at $11.30 per gross ton. The application of 450 pounds of Thomas fertilizer, in combination with nitrogen in the proportion named, to 1 acre of "worn-out land," will insure a bountiful crop. The cost in Prussia would be about $2.25 per acre for this kind of manure. A less quantity would answer after the soil had been once restored to productiveness. For summer crops this fertilizer must be applied in the winter season, February and March being the most favorable months. For winter wheat, or for crops the seed of which is put into the soil late in the fall, the "Thomas fertilizer" should be applied in August.

An idea of the extent of the demand in this part of Prussia for the "Thomas fertilizer" may be obtained from the fact that one firm in Oberhausen manufactures yearly 33,000,000 pounds. Another establishment near Aix-la-Chapelle produces yearly about 110,000,000 pounds; and extensive works in Neunkirchen manufacture this new fertilizer in still greater quantities, and it is stated that the sources of supply are substantially inexhaustible, and equal to any demand that is likely to exist.

Prussian farmers, who are very economical and close calculators, use the "Thómas fertilizer" almost exclusively, in preference to all other artificial manures, guano, &c.

The advantages connected with the use of artificial manures, as claimed by scientific Prussian farmers, are:

(1) They can purchase precisely such quantities of nourishment as are needed to produce the largest possible yield of the particular crop they desire to cultivate.

(2) The nourishing substances are easily soluble, and immediately effective after being applied.

(3) They are convenient, always ready for use, and not bulky, and the supply abundant.

In using artificial manures, the quality and different conditions of soil are carefully considered. For instance, light and warm soil requires a greater proportion of saltpeter and less of phosphoric acid, while wet, cold, and heavy land requires more phosphoric acid and less of saltpeter. Potash can be used on any kind of land, but on light soil it gives the most satisfactory results.

Grain and such root crops as beets, turnips, &c., and grass receive the largest benefits from the use of saltpeter (nitrogen), while leguminous or pod plants show the smallest results. The use of phosphoric acid alone is advantageous only when applied to leguminous crops. All other crops, especially grain, require, in connection with this material, nitrogen (saltpeter) and potash; but in all cases where saltpeter and phosphoric acid are used in combination the proportion should be one part saltpeter and two parts phosphoric acid.

The general average proportion of artificial manure used in the production of grain and grass crops on land not exhausted should be as follows: Saltpeter (nitrogen) per acre, yearly, 22 pounds; phosphoric acid, or "Thomas slag," per acre, every fourth year, 44 pounds; potash per acre, yearly, 44 pounds.

SCIENCE AND AGRICULTURE IN THE FUTURE.

Agriculture in Prussia and in other parts of densely populated Europe is being revolutionized so far as methods of cultivating the soil are concerned, and the absolute necessity of applying the highest order of scientific knowledge to agricultural pursuits is now fully recognized in connection with the business of farming. The haphazard guess-work and "go-as-you-please" methods of the past are rapidly disappearing, and agriculture is being regarded as a science in the fullest acceptation of the term. The successful manager of a farm must at this date be a man of culture and master of many of the practical sciences. He must know much of chemistry and something of botany and geology. He must be able to understand the ingredients of the soil he cultivates by analyzing the elements of its product. He must know what elements produce the straw and chaff and what the flower and the fruit. He must be able to determine accurately what essential ingredients in the soil are weak and which are strong, and know, in preparing fertilizers, how to adjust proportions to suit the demands of nature, so as to secure the highest productive results, and he must be wise enough to comprehend and utilize the lessons of nature, which are many.

Some of the universities in Europe have a chair of agriculture and have instituted in their science faculty a department for a systematic and thorough training in agricultural science, and the degree of "bachelor of science" is conferred for excellence and proficiency in this branch of knowledge. Agricultural colleges have been established in all of the German states, and are aided in a pecuniary way by the general and local governments.

It is predicted that the period is not remote when, in universal estimation, a real master of agricultural science, if measured by the standard of high and useful culture, will take rank at the head of all the learned professions; and why not? for a master of agricultural science must draw from all other sciences the knowledge that qualifies him to be a master. His vocation, too, will be regarded as the most useful and as meriting the highest honor; and why not? as the life, happiness, and comfort of the world's inhabitants are dependent upon the soil, whose

lasting fertility and productions can only be secured by the aid of agricultural science and the teaching of those who know how to control the knowledge of men and the producing powers of the earth.

In the last decade of years the percentage of food produced upon a certain area of land in Prussia has been immensely increased by the application of higher degrees of scientific knowledge to farming industries.

Botanists have demonstrated beyond question that plants possess their peculiar tastes, likes, and dislikes in the way of food, and the farmer must humor them accordingly, in order to obtain success with his crops. "Buckwheat, for example, will most readily take up potash in the form of the chloride compound of that mineral; while, if it cannot contrive to gain access to a supply of the latter substance, it will accept the nitrate of potash as the next best form of that mineral food." But if phosphate of potash, or if the sulphate, be offered to plants they will grow in a sickly condition, just as humanity declines and develops disease when supplied with food not suited to its nature. Recent information from various sources shows conclusively how necessary a knowledge of plant food must be to the successful farmer. Leguminous or pod plants depend largely on lime as a mineral food. Potatoes and other root crops rely, as does buckwheat, on potash; and cereals and grasses have an affinity for silica, or flinty materials. But none of the plants mentioned will thrive alone upon any one of the nutriments named. They must in combination be fed to the plants. The information here given only indicates the predominant element needed in the compound.

The new departure from old methods in the application of purely scientific knowledge to agricultural pursuits in Prussia has only just begun its progressive journey, and the developments of the future promise results which, in degrees of advantage to the farmer, are now measureless. It is not doubted by those who are competent to express an opinion upon the subject, that the coming achievements of science in connection with processes of food production will be as extensive and astonishing as has been its bewildering operation in other directions, in mastering the elements and forces of nature and subjecting them to the control and uses of mankind. Through its instrumentality and that of higher industrial culture, the future producing capacity of the land to support life will probably be so extended and multiplied when measured by present experience as to be substantially without limit.

The necessity for a more intelligent study of the producing powers of the earth has in recent years been apparent in many ways. The advantages to be derived from careful investigation have now become more clearly manifest, as shown by statistics, chemical and otherwise, and by scientific tests of recent date, many of which have been conducted under Government supervision and encouragement.

Potash, for instance, as previously stated, is well known as an essential constituent of the mineral food of plants. "An acre of land contributes, say, 40 pounds of this mineral to the growing crop upon it. The number of crops which may be satisfactorily produced in a given depth of soil can, therefore, be computed on such a basis." From good authority it is ascertained that the "weight of dry soil per acre to the depth of 9 inches is about 3,000,000 pounds. If the soil contains $\frac{3}{10}$ per cent. of potash its total amount would be 9,000 pounds, and at 40 pounds per year this mineral supply would be sufficient for two hundred

and fifty years." It is a notable fact, however, that this estimate is affected by sundry conditions, which a further study of science discloses. "Many rocks containing potash are perpetually being decomposed and dissolved, and the elements of the subsoil tend upwards and find their way to the soil itself." Thus exhaustion of the soil is avoided in a natural way, and in this fact may be found the explanation of the apparently anomalous circumstance that in many parts of the world fields have been cultivated for centuries and continue to show the presence of potash enough in the soil, so that it is only necessary to add the other essential ingredients to answer all the demands of the crop.

As evidence of the influence of a combination of certain mineral substances underlying and mixed with the soil, reference may be made to a small tract of country, lying partly in the Kingdom of Wurtemberg and partly in the neighboring Republic of Switzerland, and which in remote periods, has been subject to volcanic disturbances. This particular region has always produced luxuriant crops of a peculiar kind of white wheat called "dinkel," and in no other part of the world can this crop be successfully cultivated. The flour made from this grain is said to be whiter and superior in every way to any other kind ever produced and is quoted at a higher price than any other brand known in Europe.

Enough has been said in the previous pages in explanation of the methods—scientific and otherwise—practiced by some of the most successful Prussian farmers in cultivating the soil and preserving it from deterioration. The data herewith furnished may possibly be of some service as an index pointing to methods which will restore to original productiveness the "worn-out" lands of Virginia and elsewhere. That these lands can be restored to more than original fruitfulness is as certain as the fact that such lands exist. If one of the barren fields of Virginia could be transferred to an overpopulated farming district in Prussia, where the soil is generally thin and poor, the Germans would regard it as a treasure, and in two years, under scientific and intelligent manipulation, it would teem with bountiful crops. What can be done in Prussia, in agricultural pursuits, can be as well, if not better, done in Virginia. But the farmer in Virginia must first comprehend the necessity of feeding his crops as he would feed his pigs and other animals, giving to each the particular kind of food which will best promote health, vigorous growth, and a bountiful yield of fruit.

AGRICULTURAL INSTRUCTION IN SPECIAL AND COMMON SCHOOLS.

The most essential movement to be made, however, in making the barren land of "tide-water Virginia" again contribute a wealth of product toward the prosperity of the State and the happiness and contentment of its people, is the establishment of special educational institutions upon a lasting basis, where a thorough training in practical and scientific agriculture can be easily and cheaply obtained. Still better would it be if lessons in agricultural science were made a part of the course of instructions in all common schools of a grade higher than that of a primary character, thus bringing to the minds of the children of the State some knowledge of the only industrial pursuit that can insure national and permanent prosperity.

J. S. POTTER,
Consul.

UNITED STATES CONSULATE,
Crefeld, March 3, 1887.

RUSSIAN PETROLEUM TRADE.

REPORT OF CONSULAR AGENT CHAMBERS.

INCREASED EXPORTS.

In my report upon the Russian petroleum business, dated November 1, 1886,* the exports of petroleum products from this port for the first nine months of the year 1886 were given, and I now give herewith the total exports of petroleum products from Batoum for the years 1885 and 1886, showing an increase in 1886 over 1885 of about 72 per cent.

The greatest increase in the export to any one country, as will be seen by these statistics, was to Austria-Hungary, and the cause of this great increase was the unjust discrimination in favor of Russian oil of the customs authorities at Fiume, in admitting a valuable combination of Russian manufactured oil at the rate of duty required by law for a comparatively worthless crude oil, which was fully explained by my letter of December 30.†

The only countries to which there was less oil exported in 1886 than in 1885 are Turkey, Italy, and Roumania, but it is very probable that if the destination of the January (1886) export was known in detail the apparent decrease to Turkey and Italy would be greatly reduced. The expiration (on October 21, 1886) of the commercial treaty between Russia and Roumania, by which Russian products were admitted to Roumania at a uniform and very low rate of duty (5 per cent., I think) stopped the export to Roumania early in October.

It seems as if the increase in Russian exports must have been felt by the American trade, but as the export of petroleum products from the United States for the year 1886 shows an increase over 1885, it is difficult to see where the Russian products have interfered with the American, except of course in Austria-Hungary, where Russian oil is better protected against American, and even domestic competition, than it is in Russia itself.

RUSSIAN PETROLEUM IN INDIA.

The attempt of Russian exporters to invade India with their illuminant is not such a serious manace to American exporters as it appears to be for many reasons, the principal of which are: First. The result from Russian refined in ordinary lamps cannot be compared with that obtained from American oil; it is possible that the Russian oil may be condemned in India by consumers, and other trials asked for it, upon the ground that the first shipments were not of the best quality obtainable in Russia; it is not at all probable, however, that such astute

* Printed in Consular Reports No. 74, February, 1887, page 400.

† The following translation of an item from a recent number of the Russian journal, "Reporter of Finance and Manufacture," will give an idea of the notoriety this export has obtained in Russia and the feeling regarding it:

"According to the report of the consul at Fiume the import of the crude oil at that port from Russia for November, 1886, was 46,254 quintals; for the eleven months of 1886, 330,739 quintals.

"And all this is downright falsehood, as in reality not a single quintal has been sent by us, but uncleaned illuminating distillate, dirtied at Batoum by the addition of 8 to 10 per cent. crude, was exported and entered at Fiume as crude oil in prejudice to the Austrian Government, which is being cheated of the high import duty on manufactured oil by this fraud, and also in prejudice to the Russian Government."

business people as the Rothschilds, who are the leaders in this export, have sent to such a new and important market as India anything but the very best quality of refined that can be made from Russian crude; in fact, it is more likely that the quality of first shipments is superior to any other that may be sent there in the future; it will certainly not enjoy there the principal advantage it has in Russia, *i. e.*, lamps especially prepared (by greatly increased draft) for burning it. Second. The inferior manner in which it is packed will be no trifling objection to it; the cans made here are tolerably good, but the cases, owing to the difficulty in procuring suitable lumber and intelligent labor, are very bad, and hardly calculated to stand a long sea voyage. Third. The fact that a supply at a paying price cannot at present be depended upon; the total sales for Indian exports were six cargoes (about 400,000 cases), and the loss to the sellers has been very heavy, owing to the advance in the price, caused by the increased demand and limited facilities for making cans and cases.

RUSSIA AS A COMPETITOR TO THE UNITED STATES.

Any one at all familiar with Baku oil territory and production must believe that Russian oil must eventually force itself upon the markets of the world and become a formidable competitor to the American article, but the time when it will materially influence the markets of the world, or even of Europe, is not quite so near at hand as the interested and thoughtless advocate of the article and the marked increased export of 1886 would lead one with little information of the trade to suppose. In fact it does not appear to be such a dangerous antagonist of the American export trade now as it did six months ago; for then the quantity that could be placed in competition with the American oil was unknown, while now it has been clearly demonstrated that last year's business cannot be materially increased until additional transportation facilities from Baku to Batoum are provided. This is fairly proven by the present existing state of affairs here. The average price of refined oil in bulk at Batoum for the first eleven months of 1886 was about 3 cents per gallon, while the average price since December 1, 1886, has been from 4½ to 5 cents per gallon. That this advance in price was wholly due to the demand at Batoum, to keep employed the many steamers chartered in reckless haste by the Russian exporters, in their laudable but Quixotic ambition to drive the American oil from the markets of the world and bankrupt the American exporters—that this demand was not from the European markets is demonstrated by the fact that there was no advance in the price of Russian oil in any of these markets—is clearly proven by the fact that while refined oil for any other purpose than Batoum shipment could, and can now, be bought at Baku at 1 cent per gallon, and the regular railway transportation charge is 1½ cents per gallon, making a total cost of 2½ cents per gallon in Batoum for refined free on board tank-cars at Baku for Batoum, the seller finding the cars, 3 to 3½ cents per gallon (according to buyers' necessities) can be readily obtained; in other words, the limited railway transportation causes tank-car capacity to be worth a premium of 2 to 2½ cents per gallon, and when I was in Baku, two weeks ago, it was there asserted that even common rack freight-cars, for carrying oil in barrels, were worth about ½ cent per gallon premium. That the Batoum exporters have suffered severely financially from this state of affairs cannot be doubted. It is true many of them had contracts with Baku refiners for refined free on board cars at very low prices, but it is equally cer-

tain that the refiners have since the advance refused to deliver upon such contracts, and in order to obtain the oil which was absolutely necessary buyers have very generally been compelled to pay a much higher price than that called for by contracts. The harbor here is now full of sailing vessels on demurrage because of the impossibility of getting oil fast enough to load them; and there are also some steamers here loading and waiting for cargo, but of course the steamers are given precedence over sailing vessels because of the heavier demurrage upon them. The present outlook for the exporters, although not very cheering, is still much brighter than it was a month ago, because the exceedingly bad weather for fifteen to twenty days in January made loading vessels impossible (and thus made their detention a charge upon their owners instead of upon charters), while it did not seriously impede railway traffic, so that the exporters had the benefit of this time in which to get oil here. Nevertheless considerable demurrage was paid and more claimed in January; one steamer taking case oil to Bombay claimed (and it is said will get) nearly £1,000 sterling for demurrage and short freight.

FACILITIES FOR TRANSPORTATION.

There are now in this trade 10 tank-steamers, with an aggregate annual capacity to ports for which chartered of from 75,000,000 to 80,000,000 gallons, and two or three more are reported due here soon, while the carrying capacity of the railway at present is not estimated by the most sanguine to be over 70,000,000 gallons. Thus it would seem that the gratuitous (?) puffing which the Russian petroleum business has lately had in the European press, with the very plain object of sending much needed capital to its assistance, has been only doubtfully successful, inasmuch as it has resulted in sending to the assistance of the trade, not money, but ships in such numbers as to advance the price of the oil their charterers are compelled to buy, in order to keep them employed, to such a figure as to make the loss from the sale of it in European markets so great as to startle even the Russian exporter, who has heretofore exhibited such a courageous disregard of financial results. The situation must undoubtedly improve; because, at present prices for Russian refined at Batoum, profitable competition with American oil at present prices at New York is impossible, even in the Levant. Some of the many steamers chartered for the trade will be compelled to remain idle at the expense of charterer, and of course all the charterers of these vessels feel very sure that they will not suffer in this manner, but that their competitors here must, and thus allow them to continue to export at no loss, and perhaps (with an advance in prices in America) at a profit.

The lesson the Batoum trade is now learning is undoubtedly an expensive one, and may impress upon it the fact that the price of refined at Batoum, and consequently the business of exporting, are wholly dependent upon the capacity of the railway for carrying oil from Baku to Batoum, a material increase of which seems further away than ever, since it is currently reported and believed in Tiflis that the project of tunneling the Suram Pass has been pronounced impracticable (impossible is the word used), and abandoned by the engineers who had charge of the preliminary work. Some private tank cars will be added to the rolling stock of the railway in the spring, but the conditions upon which these cars are accepted by the railway company, viz, that they can only be taken over the Suram Pass after all the cars belonging to the com-

pany are out of the way, seem to indicate a doubt in the minds of the railway officials as to their ability to handle any more cars than are now in service.

PIPE LINE.

The project of constructing a pipe line from Baku to Batoum, after having been definitely decided by a notorious English romancer, who published his specifications for the line in an English journal several months ago, was finally considered by a joint council of the ministries of finance and state domain, in St. Petersburg, January 12 (24 new style), and a conclusion arrived at against the construction of a line by the Government, but ostensibly favorable to the granting of a concession for the construction of a line (for crude only, and subject to strict Government control) under certain conditions, sixteen in number. I have had a translation made of these conditions, and while it would no doubt prove of great interest to American readers, in showing them the remarkable ideas held by Russian pipe-line experts, I do not give it because the one clause viz, "No. 10, the company must prepare all necessary pipes and reservoirs at Russian works and of Russian material," precludes any possibility of American competition for furnishing material for it, and consequently the other conditions are of no importance to Americans. I will merely say that of the sixteen conditions, there are eight, any one of which would, I believe, prevent any one with even the slightest practical knowledge of the pipe-line business from accepting this concession.

SIGNS OF EXHAUSTION.

The producing territory at Baku shows no more marked signs of exhaustion than it did six months ago; nevertheless the feeling that it is not inexhaustible seems to be gaining ground among those most interested, some of the best advised of whom, after having, as they claim, made a careful and intelligent study of the subject with the aid of both practice and science, declare that the present developed territory will be wholly exhausted in five years. The volume of production, however, shows no decline; on the contrary, a two weeks' visit to the producing district in January, leads me to believe that the production of crude is at present as great as it ever has been. There are two or three wells, which if allowed to flow, would probably yield all the crude required by the refineries, but as the demand for crude is exceedingly limited these wells were not allowed to flow. In fact the production is at present so great, and has such an insignificant influence upon export (for reasons already given), that it can have little interest to the American trade, but some figures relating to the financial results of this branch of the business may not be uninteresting, especially after the mass of nonsense that has been published by sensational writers in the English press concerning it. The average price of known or supposed producing territory in the vicinity of Baku is $5,000 per acre, and the cost of drilling a well 800 feet (they are now drilling deeper) about $10,000 to $13,000. Consequently the minimum cost of one acre with three wells is $35,000.

The average yield of Baku wells, if the result from nearly 100 average wells, some of which yielded from 9,000,000 to 15,000,000 poods each, can be taken as a criterion, is less than 1,000,000 poods each. The price for crude at wells in 1886 did not average 1½ copecks per pood, and with as much production now as at any time last year, heavier stocks every-

where in Russia than a year ago, and the improbability of increasing export this year, there is no reason to expect a higher price in 1887 than ruled in 1886, especially as the price now is only one-half to three-fourths copeck, and will remain so for only limited quantities up to May 1. Taking three wells on one acre costing $35,000, and producing in the aggregate 3,000,000 poods, at 1½ copecks per pood, will give total receipts of about $20,000, or $15,000 less than cost, allowing nothing for expenses of delivering crude to the pump station of buyer, which must be borne by producer, nor for any other expenses or probable loss from selling to a party who may not pay promptly as he agrees (crude oil is not sold for cash as a rule, but on three, six, and nine months' credit). If the three wells were drilled at one time, it would require at least one year to finish them, and probably one year more to obtain all the oil from them, consequently to realize 15 per cent. in two years upon an investment of $35,000, a producer would have to get twice as large wells as the average, or realize twice the average price for his production.

When at Balakhani, I saw a well flowing, it was said, 30,000 barrels per day, and I did not doubt that this estimate of the production was a reasonable one. The flow from this well could not be stopped, because when an attempt was made to stop it, by closing the valve on the top of the pipe, the oil came up around the outside of the pipe and threatened to undermine the derrick. Thirty thousand barrels of crude oil per day from one well, without an explanation of the vast difference between American and Russian production, would be very misleading. If the whole production of this well *could have been sold* at the market price of one-half copeck per pood, it would have given a daily revenue of about $560, while an American well producing 800 barrels per day (a much more common thing than a 30,000-barrel well in Russia) would at present low prices in America give about the same revenue. This sum would be net to the American producer, as his oil is taken away at no expense to him and can *always* be sold for cash; besides, the American well will produce oil for as many years as the Russian will months, or in many cases weeks.

BIBI-EIBAT WELL.

Some time ago there appeared in many American newspapers a very sensational account of an immense petroleum well struck several months ago at a place near Baku, called Bibi-Eibat, which account was accredited to what was called an "eminent English authority upon Russian petroleum." This well was referred to in my report, and while it was undoubtedly a remarkable well, one of probably not more than half a dozen such that have been found at Baku, it is equally certain that the sensational writer referred to withheld some of the facts which were known to him concerning it, and enlarged upon the ones that suited his purpose best. The statement that the oil from this well deluged the town of Baku, five versts away, was exceedingly misleading, had it been true, which it was not. A village probably a mile from the well was, however, thoroughly sprinkled with oil, because of the very high wind blowing from the Caspian Sea during the few days the well was flowing, but the same thing would have resulted from a well producing 5,000 barrels per day in the manner in which this well was said to be producing 50,000 barrels. The fact as stated by the Baku paper that the owner of this well would lose 100,000 rubles ($45,000) because of damage done by the well to his own and other property, was omitted from the sensational accounts I saw of the well; but this loss was, I think, like the produc-

tion of the well, greatly overestimated, at least 50 per cent. The well flowed furiously fourteen or fifteen days, then declined to 2,000 or 3,000 barrels per day, and when I saw it, about three months after it was struck, had entirely ceased to produce; if, however, it had produced all that the most sanguine claimed for it, and its production had been sold at market price, it would have realized less than $15,000, or a trifle more than the average cost of a Baku well.

These figures regarding Russian production (and that they are very fair will, I am sure, be confirmed by any one with a knowledge of the business and unprejudiced by self-interest) will give an idea of the value of the Baku petroleum "Molochs," and in a great measure account for the present impoverished financial condition of the Russian producer.

JAMES C. CHAMBERS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Batoum, February 1, 1887.

***Exports of petroleum products from the port of Batoum for the years* 1885 *and* 1886.**

To—	Illuminating oil.		Crude, residuum, lubricating oil, and distillate.		Total.		1886.	
	1885.	1886.	1885.	1886.	1885.	1886.	Decrease.	Increase.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
England	1,748,300	1,907,500	1,427,075	1,980,185	3,175,375	3,887,685	.....	712,310
Germany	250,000	1,490,000	40,100	1,300,550	290,100	2,790,550	.....	2,500,450
Austria-Hungary	3,281,570	7,069,880	613,115	6,221,090	3,894,685	13,290,970	.....	9,396,285
France	1,056,125	1,708,400	1,410,070	1,649,135	2,466,195	3,357,535	.....	891,340
Spain	12,000	308,000	.....	.....	12,000	308,000	.....	296,000
Italy	3,239,470	2,181,000	1,055,740	1,078,200	4,295,210	3,259,200	1,036,010	.....
Turkey	11,843,950	10,476,290	218,500	7,905	12,062,450	10,484,195	1,578,255	.....
Roumania and Servia	5,197,060	4,604,410	.....	81,150	5,197,060	4,685,560	511,500	.....
Holland	.....	.....	10,000	120,000	10,000	120,000	.....	110,000
Belgium	.....	2,037,750	.....	1,377,800	.....	3,415,550	.....	3,415,550
Denmark	.....	300,750	.....	.....	.....	300,750	.....	300,750
Greece	.....	418,500	.....	1,750	.....	420,250	.....	420,250
Algiers	.....	269,000	.....	.....	.....	269,000	.....	269,000
Tunis	.....	103,000	.....	.....	.....	103,000	.....	103,000
Egypt	.....	1,678,460	.....	500	.....	1,678,960	.....	1,678,960
Bulgaria	.....	49,000	.....	.....	.....	49,000	.....	49,000
India (Bombay)	.....	1,250,000	.....	100	.....	1,250,100	.....	1,250,100
Other countries	236,850	.....	.....	.....	236,850	.....	236,850	.....
January, 1886 (not obtainable in detail)	.....	3,469,065	.....	1,096,950	.....	4,566,015	.....	4,566,015
Total	26,865,325	39,321,005	4,774,600	14,915,315	31,639,925	54,236,320	3,362,615	25,959,010

Increase in 1886 over 1885, 22,596,395 gallons.

PETROLEUM IN EGYPT.*

REPORTS OF CONSUL BISSINGER.

As an evidence of the firm determination of the Egyptian Government not to retrench in the expenditures that may be requisite for the vigorous prosecution of the experimental borings in the Egyptian oil districts, the sum of £30,000 sterling has been set aside in the financial estimates for 1887 for continuing and bringing to an early termination the preliminary operations now in progress at Djebel Zeyt and Gemsah, on the Red Sea littoral.

In his report on the budget for 1887, Mr. Edgar Vincent, the financial adviser to the Government of his highness the Khedive, makes the following observations:

With regard to the estimates for petroleum I do not anticipate that the full sum will be expended without compensation in the shape of receipts. If by the month of April oil has not been discovered in quantity sufficient to make boring remunerative, it will probably be decided to stop the works and to sell the material purchased.

Pertinent to what precedes, the voyage of Mr. Edgar Vincent to the oil fields and, simultaneously with his return a few days ago, the confirmation of a rumor sedulously circulated is most significant; it is to the effect that boring at Djebel Zeyt had reached volcanic rock at a depth of 600 feet from the surface, and that it was now proposed to wholly abandon this well.

The drillings at Gemsah have in the mean time been carried to the following depth: No. 1, 425 feet; No 2, 350 feet, and No. 3, 520 feet, all promising well; the soil being heavily charged with petroleum.

As this question appears now to be approaching its critical period, I shall endeavor to secure and transmit to you any further reliable particulars of importance or interest that may in any way affect the ultimate result of this venture of the Egyptian Government, which cannot be viewed with indifference by a large class of our exporters. (January 25, 1887.)

Having upon a previous occasion essayed to acquaint your Department with the geological formation of the Egyptian petroleum district it suggested itself to me that it might not be inappropriate and perhaps prove of some value to endeavor to carefully record the exact nature of the different strata and the result of the various materials obtained from the wells as the boring for oil progresses at Gemsah and Djebel Zeyt.

For this reason I call your attention to the latest trustworthy information just to hand from the Red Sea littoral, from which it would appear that several veins of "ozocerite," designated as "oil wax" in my dispatch No. 79 of the 4th instant, have been encountered at well No. 1, at Gemsah, which has now attained a depth of 380 feet, and is in a stratum of close-grained coral, with several fissures containing petroleum.

Ozocerite, as may not be generally known, is a substance like resinous wax in consistency and translucency, having a weak bituminous odor, and is ordinarily found in connection with rock-salt and coal; it is largely used in the manufacture of candles, and is of much more value

* See Consular Reports No. 74, February, 1887, p. 423.

than the petroleum itself, which is its chief component in a solidified condition.

As this well is deepened, gas and oil are met with in greater abundance.

The material extracted from well No. 2 also produces traces of both gas and oil, but indications of petroleum are still wanting in well No. 3.

Boring at Djebel Zeyt has now attained a depth of 400 feet, and is through hard coral, but work in this well is greatly impeded by the presence of water.

The Egyptian Government is evidently most sanguine of ultimate success, and is continually increasing its plant and re-enforcing its already formidable staff of skilled engineers. (February 5, 1887.)

ERHARD BISSINGER,
Consul.

UNITED STATES CONSULATE,
Beirut, ——.

PETROLEUM DEVELOPMENT IN VENEZUELA.

REPORT OF CONSUL PLUMACHER.

I have already called attention to the bad quality of the American kerosene sold in Venezuelan markets, and the possibility of extensive production of the refined article in this country. I inclose copy and translation of an article from the leading Venezuelan newspaper.

It will be noticed from this inclosure that the subject of producing locally sufficient refined petroleum for the consumption of this country, and even for export, is being seriously considered.

The manager of the works, which for several years past have been in operation on a small scale near the town of Belijoque, in this consular district, returned a day or two ago from a visit to Carácas.

According to his statement he has sold the concession which he held for the exclusive right of refining native petroleum in this section of Venezuela to the English Rothschilds for a large sum of money and various shares under the new régime.

It is proposed by the British concessionaries to do business on a large scale, with a view not only to monopolize the supplying of local demand, but also to inaugurate an export trade in petroleum and its products.

As yet we have only the word of the manager and original projector of the refining industry for the accuracy of these statements, but there appears to be no ground for disbelief.

This industry, and the possible results of its development, have frequently, during years past, been referred to by me both in official reports and in correspondence with individuals, and at various times I have been led to hope that the working and development of the great deposits of petroleum and asphalt existing in this country might fall under the control of citizens of the United States.

Should the statement referred to regarding the transfer of the concession prove to be correct, it is only another excellent opportunity which we have failed to take advantage of.

Although the original concession was only intended to include this part of Venezuela, it is more than probable that if the Rothschilds have entered into the matter they will have the exclusive privilege of refining petroleum throughout the entire territory of the Republic.

The first result of the new system will be absolute prohibition of the importation of petroleum and its products, or practically prohibitory duties.

That for many years there will be any great exportation of the article I do not believe, as the directors of Venezuelan finance have sometimes remarkable ideas regarding the development of the national export trade.

Their idea of national prosperity seems to be the entry of large sums into the federal treasury, no matter to what extent an industry is harassed.

By the constitution export duties are absolutely prohibited, but that wise provision is made entirely inoperative by the imposition of various petty taxes and imposts, which in the aggregate form a burdensome percentage upon the value of the article. This, of course, is not officially designated as an export tax, but as to get the article out of the country it must be paid, it comes to the same thing in the end, and the exporter finds but little consolation in the reflection that the letter at least of the constitution has been preserved intact.

Referring not only to the petroleum industry, but to many others which may be advantageously developed in these countries, I cannot help believing that Europeans make a better use of our consular reports than do our own citizens.

While our consuls in all South American countries are constantly publishing detailed accounts of their districts and the possibilities for successful investment of capital or extension of business, I have yet to see a report of value over the signature of a consul of any other nation, and yet I have more than once noticed that the publication of American consular documents has been followed by almost immediate action on the part of European merchants or capitalists.

Commercial and industrial prestige in Spanish America is well worth having, and it is not comforting to reflect that by the apathy of our own people foreigners are able to turn the efforts of the Department to their own profit.

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, January 28, 1887.

[Translation.]

We have had occasion to test the refined petroleum from the deposits worked near Belijoque, in the State of Los Andes, and although our columns have been occupied at various times by accounts of the results of this important industry, we now hasten to inform our readers that, in our opinion, this important domestic product is in all respects superior to that imported.

The light produced is much clearer and more brilliant, and in color and other natural conditions there is a notable difference.

The Company Constancia Dacovich, which has already dedicated several years to the development of this industry, has, in view of the good results and the daily increasing demand, determined to extend its operations in order to satisfy the growing consumption.

All the petroleum produced by the mines now in operation is bought in advance, even before being refined, as, besides the advantages mentioned above, its price is less than that of the imported article.

The Republic will soon be abundantly supplied with this important article extracted from its own bosom, and there is a probability of being able to enter into competition with other exporting countries.

This is a step in national progress which we applaud, encouraging the projectors not to lose heart.

Let us establish new industries and think upon the development of our immense natural wealth, dedicating ourselves to labor which honors and exalts man, and we will contribute to the realization of the country's welfare.

TAXATION OF PETROLEUM IN CHINA.

REPORT OF CONSUL SEYMOUR.

I would ask your attention to my dispatch,* dated November 13, 1886, in reference to the increased importation and consumption of American kerosene in Southern China; and to also bring to your notice the two accompanying translations of proclamations issued by the Chinese authorities of Kwang Tung province, dated November 28, 1886, and December, 1886, levying an additional "tax lekin" on kerosene.

In 1882 the Chinese authorities levied a "lekin tax" of 40 cents per case on kerosene, besides the duty, and sold or "farmed out" the monopoly or exclusive right to collect this "lekin" to a Chinese syndicate for about $30,000, and in 1884 sold the monopoly for $63,000.

The contractors, or kerosene syndicate, confess having collected "lekin" in 1886 on 220,000 cases.

The estimated consumption or receipts of kerosene for 1887 are about 400,000 cases; and the Chinese authorities have in these proclamations ordered an *additional* "lekin" tax of 90 cents per case=$1.30 per case besides the import duty. This is severe.

When remonstrance was made four years ago against the "lekin" tax on kerosene, the then acting viceroy at Canton was his excellency Tseng, the able viceroy of Nankin, who relieved the viceroy of Canton, while the latter officiated at Tientsin during the mourning of his excellency Li Hung Chang for his mother.

The Chinese authorities stood on the declaration of Viceroy Tseng that,

> Once foreign goods have entered China and become the property of Chinese merchants, their taxation is wholly and solely a matter within the discretion of China.

The facts have been presented to Minister Denby in Chinese and English copies of these new proclamations, and pending action on the case at Peking I have refrained from any controversy on the subject with the local authorities, although requested to resist by the American merchants.

CHARLES SEYMOUR,
Consul.

UNITED STATES CONSULATE,
Canton, January 22, 1887.

PROCLAMATION NO. 1.—ON KEROSENE.

Let it be proclaimed that the article of kerosene which came from abroad is very explosive in its character.

The people, on account of its cheapness, purchase it for the use of their lamps, and the least negligence will result in a calamity of a fire with unlimited evils. There-

* See Consular Reports No. 74, February, 1887, p. 510.

fore it ought to be prohibited. But fearing that the people who have learned to use it constantly will be inconvenienced, and since it is necessary to appropriate funds for coast defense and the prevention or detection of smuggling at Canton at present, the article of kerosene ought to be heavily taxed so that its price shall be about the same as that of the peanut oil in the country, which as a necessary article for the use of families shall not be crushed out of the market or trade. To enable the merchants to be profited and the calamities lessened, so by this action two advantages are gained.

Upon investigation it is found that in the tenth year of Kwang Sü (1884), the lekin on the kerosene monopoly of this whole province was farmed out to a merchant named Chang Shin Ying for $63,000 annually, which is divided quarterly in its payments.

Now it having been ordered by his excellency the governor that besides the sum paid ($63,000) by the merchant who farmed out the "lekin" on the kerosene monopoly, 120,000 taels (about $180,000) more must be levied from the kerosene monopoly every year, and if that merchant does not wish to undertake the farming out business, the lekin office shall carry out the levies and shall ascertain how many boxes of such articles are imported annually and how much lekin shall be levied on each box, which shall be carried into effect as soon as possible. Having been so ordered, the merchant named Chang Shin Ying was sent for and interrogated; and upon questioning the merchant he replied, saying, that the import of kerosene annually amounted to nearly 220,000 boxes; but they are stored up in Hong-Kong and Macao, and are easily subjected to being smuggled, as most of them are transshipped in private salt junks. If a heavier lekin is again levied, a larger capital is required; and thus smuggling is increased; so he does not dare to undertake the business.

Upon investigation, although the article of kerosene which arrives at Hong-Kong annually is said to amount to 220,000 boxes, and on each box is levied 6 mace (about 90 cents), only a fund of 120,000 taels (about $180,000) can be procured annually for coast defense and the prevention of smuggling, which does not affect the lekin ($63,000) paid by the merchant Chang Shin Ying, as each sum is levied and collected separately, so that the merchant is to follow the usual rule, that is, to pay $63,000 annually, and all verbal excesses are forbidden.

Now all the "lekin" offices have been ordered to follow this rule of levying and collecting, but since "lekin" offices are not yet established at the port of Kiungchow (island of Hainan), the Kiungchow prefect has been ordered to follow the same manner of levying and collecting among the import taxes; but if a heavier capital is required and smuggling is increased, which seems very reasonable, a plan ought to be devised to strictly guard against smuggling, so as to procure public funds.

Therefore his excellency the governor is requested to order the officers for detection of smuggling at the six gates, the river and sea revenue cruisers, and the revenue officers to be strict on their search, and if there is any one who privately carries on the kerosene business, its cargo and ship shall be taken for the use of the Government, and one-half of the profits shall be used as rewards; and if any officer or office in any port or in the interior finds any kerosene which has not been levied on to contribute to the fund for coast defense and for detection of smuggling, all of it shall be taken for public purposes; and if there is any one who knows of any kerosene smuggling, and reports to any of the offices of the six gates, or to any revenue cruiser, one-half the profits shall be awarded to him.

So, in accordance to this act, let it be proclaimed to the merchants and the people that they should know, at present 6 mace (about 90 cents) are levied on each box of kerosene, to be appropriated to the funds for coast defense, and detection of smuggling, which are to be collected by all the lekin officers, and are not concerned with the amount of lekin paid by the merchant Chang Shin Ying, who farmed out the business.

Those merchants who deal in this business must follow the orders of this proclamation and go to the lekin office to pay the taxes, and if there should be any crafty merchant who passes the office and smuggles any kerosene that has not been levied, the whole ship or cargo shall be taken for public purposes. No pardons are offered, and those revenue officers shall not use any excuse to demand any bonus from any such merchants as to cause any disturbance; so all should be careful and not trespass against the orders.

Issued on the 3d day of the 11th Moon, in the year of Kwang Sü (equivalent to November 28, 1886).

Commissioners of the lekin offices of the whole provice of Kwang Tung.

PROCLAMATION No. 2.—ON KEROSENE.

Let it be proclaimed that the houses in this provincial capital [Canton] are closely built and are thickly populated, so the strictest watch ought to be kept to avoid fire calamities. Since the beginning of winter the occurrences of fires had been repeatedly seen.

Although it is due to the dryness of the weather that things are easily being set on fire, but upon examination the causes of such negligence, nine cases out of ten, originated from the use of kerosene, because its character is highly explosive, and it burns quickly when fire is applied, and the least negligence will result in a calamity of a great fire.

There are some provinces where proclamation had been posted strictly forbidding the use of kerosene, for the reason that its advantage is small and its evil is great, and that it does not profit the people.

The price of the kerosene in this [Kwang Tung] province is comparatively cheap, and many people have used it, and if it [kerosene] should be suddenly prohibited it may be feared that inconvenience and trouble will rise, so we, the commissioners, have again put it into consideration for the fourth time.

Now, it is ordered by the emperor that all classes of goods should be similarly taxed in order to appropriate the fund for the detection of smuggling. The kerosene should be taxed heavier, so that its price will become higher and that it will not be easily purchased. Then its use by the people will be lessened, in order to avoid calamities, which is truly a great benefit to all the families.

Now, a regulation had been considered and established that on each box of kerosene containing two cans, altogether weighing 50 catties [about 67 pounds], 6 mace (90 cents) should be levied to appropriate the funds for the detection of smuggling. The lekin officers among all ports and rivers should enforce such levies and according to this regulation. In the Kiungchow district the same amount [90 cents] should be levied on the kerosene, besides the import tax collected.

This tax has nothing to do with the amount of lekin farmed out by the merchant Chang Shin Ying as each is collected separately.

Now, the governor-general and the governor have replied to our petitions and have permitted such regulation to be carried into effect. But fearing that after such tax is again levied, a comparative greater capital is required and smuggling cannot be avoided, so we again petition to the governor-general and the governor to order the lekin officers at the six gates, and all revenue cruisers and boats among all ports and rivers, together with the naval officers, to be strict on their search. If there should be any kerosene privately sold without paying the lekin and the fees taxed for the detection of smuggling, the ship and cargo should be taken for public purposes, after deducting five tenths for public use. The remaining five-tenths should be used for rewards. If there should be any people or soldiers who know of any smuggling being carried on and report to the lekin officers at the six gates, or to any of the lekin officers outside of this capital or to any of the revenue cruisers or boats, and give clew to where the smuggled goods may be seized, when such goods are captured one-half should also be taken for rewards.

According to this let it be proclaimed to the merchants, the people, and soldiers so that you should know that on every box of kerosene each containing two cans altogether, weighing 50 catties [67 pounds], 6 mace [90 cents] should be levied at all the lekin offices, and this has nothing to do with the amount of lekin farmed out by the merchant Chang Shin Ying as each is collected separately. Those merchants must obey the orders of this proclamation and when they pass any lekin office they should pay the taxes required, and are forbidden to smuggle lest they should be caught. If any people or soldiers who know of any smuggling being carried on, should at once give clew to where the smuggled goods may be seized in order to be rewarded. But all the lekin offices and officers should not borrow excuses to demand any bonus so as to cause disturbances.

All must be careful and not trespass against the orders of this proclamation.

Issued on the 23d day of the 11th moon in the year of Kwang Sü [December 18, 1886.]

Commissioners of the whole province of Kwang Tung.

MEDIÆVAL ART WORK IN BIRMINGHAM.

REPORT OF CONSUL HUGHES.

Birmingham is known throughout the world for its manufactories of metal work of all kinds, from the daintiest productions in jewelry and handsome services of plate to the most useful yet prosaic articles required for use in every walk of life. In all these branches where art can be introduced immense strides have been made during the last quarter of a century, and still greater progress may be looked for since the foundation in this great center of industry rather more than one year ago of the Municipal Art Gallery and School of Art; and the prevailing feeling amongst the leading men of the town is that if Birmingham is to hold its own in the struggle for a prominent position, such as she has always held in supplying the markets of the world, more attention must be given in the future than has been the case in the past to the introduction both of form and of ornamentation into the designs for the various productions to be sent into the market.

There is, however, one branch of the most artistic work which has had its home in Birmingham longer than the quarter of a century to which I have just alluded. It is now nearly fifty years since the English art world, or I might perhaps more properly say a section of the English people, were startled by the vehement denunciations, both by speech and in writing, of a young architect in regard to the miserable style of architecture which then prevailed and of the lamentable deficiency in taste displayed in all the arts appertaining to ecclesiastical, civil, and domestic buildings. This apostle of art reformation was Augustus Welby Pugin, to whom may be originally attributed the improvement that has since taken place in every department of the arts just alluded to. But even a genius like Pugin might have failed to produce so great a revolution if he had not met with a practical assistant who could produce the articles which he desired to see in the place of the inartistic monstrosities he condemned, and he found such a man in the late John Hardman, of this town, a name which is as well known all the world over in connection with mediæval art work as is that of Gillott with pens, or Elkington with silverwares. Mr. Hardman, who was a button maker and medallist, had in these trades probably met more artistic requirements than the majority of his brother manufacturers. At any rate he threw himself with energy and enthusiasm into the practical development of Pugin's theories, and not only founded a business which still flourishes, but also added a new industry to those for which Birmingham was then celebrated, and as I have above stated was the pioneer in that improvement in taste which is now so marked a feature in English life, and which is so rapidly spreading in the United States.

In the beginning Mr. Hardman confined his attention to metal work only, but in a few years' time he added the production of stained-glass windows, and while the latter branch is carried on under the title of "John Hardman & Co.," the former is best known as "Hardman, Powell & Co.," and I venture to think some description of these two works may be of value and interest.

As the metal work was the earlier of the two I will describe my visit to the establishment of Hardman, Powell & Co. first.

In the working of metals, gold, silver, copper, brass, and bronze, and in wrought and cast iron, the processes are very various, and are suited

by this firm to the material that is being worked on, so that the art value of each metal is enhanced by the way in which it has been treated.

These processes may also be subdivided into two sections, viz, those necessary for the formation of the article in hand, and those added for the purposes of decoration. The former includes casting, raising from thin plates of metal, and forging; the latter, engraving, filigree work, saw-piercing or repoussé work, gilding, and wrought iron work. Engraving or incising the metal by means of gravers into ornamental designs furnished by the artist is of various kinds. The engraved lines sometimes of themselves only form the ornament, but frequently they are filled with various substances to render the engraving more distinct, or to add to the beauty and value of the object.

METHODS.

The chief methods employed for this purpose are damascening, enameling, and niello work.

I may describe damascening as the filling up of the lines made by the gravers with threads or wires of gold and silver, the incisions being peculiarly cut so as to hold the metal when beaten into them.

Enameling consists in fusing glass or other vitreous substances colored with various metallic oxides into the incisions, opaque enamels being produced by the addition of oxide of tin to the mixture. The enamels with which the old metal-workers had to do are the cloissonné, the champlevé, and the incrusted.

The cloissonné is produced by fastening together with hard solder slender strips of metal which form the outline of the subject to be represented. This metallic outline is soldered on a plate of metal, and the spaces or cells are then filled in with enamel of various colors.

The champlevé, which is the method generally used by this firm, is produced by cutting the design into the surface of the metal, the spaces to be filled with enamel being sunk and the portions intended for the outline or to separate the colors of the enamel being left standing. The enamel itself is reduced to a granulated powder, and in this state is applied with a small spatula. When the incisions or troughs are filled with the varied colors, the work is placed in a muffle which is heated sufficiently to fuse the enamel into the spaces, the use of the muffle being necessary in order to prevent any injurious gases evolved by the fuel coming in contact with the enamel and spoiling its purity and brilliancy. If, after fusing, the surface of the enamel is too far below the walls of the cell prepared for its reception more is applied and fused. The whole is then ground down to the level of the surface of the metal, polished with hones, and finally "lapped" to secure brilliancy of finish.

Incrusted enamel is applied to the surface of the metal without engraving, the various objects represented being rendered in their natural colors. These enamels are left with the "fire-glaze" produced by fusing still upon them, without any after-polishing.

Niello is a similar process to enameling, except that it is applicable to silver alone, and the filling in is metallic, producing black lines only instead of being vitreous and of any color.

Filigree work is the formation of certain portions of ornament from twisted wires, or wires twisted together into geometric or other designs.

Saw-piercing is sawing minute geometric or other ornamental apertures in thin plates of metal so as to produce a reticulated appearance. The workman sketches his design on metal, drills holes in places, passes his delicate saw through the holes, and with its assist-

ance detaches the surplus metal as his drawing or his taste may dictate. This process is represented in modern metal-working by piercing effected by punch and bed, a purely mechanical process, which can no more produce the infinite variety obtained by saw piercing than cast iron can imitate the effect of wrought.

Beating up, embossing, or repoussé work, by which designs in high or low relief are produced, is a charmingly artistic and effective variety of ornamental metal work. The article or portions of an article to be worked having been raised into form, and the design traced, the parts which are required to be convex are punched up from the interior. The article is then filled with pitch and worked on by the beater with variously shaped small punches till the design, foliage, geometric ornament, figures, or whatever it may be, is sufficiently made out. It is then worked upon with small siffles, texture is given by matting tools, or the forms and details are finished with the graver.

Opposed to this is the modern method of stamping with dies, objectionable on account of the want of relief, sharpness, and finish which all die-work displays, as well as the constant repetition of the same forms which the expense of making new dies necessarily involves. The stamp in fact is the enemy to variety and originality of design, and the beaten work is infinitely preferable to the products of the stamp and die, as saw-pierced work is to that of the press, tool, and bed.

In gilding the revivalist still prefers the old amalgam process to the electro-gilding on account of the superior durability of the work. A paste composed of gold, in combination with mercury, is applied to the surface to be gilt, the mercury is then evaporated by heat, and leaves the gold firmly adhering to the metal. "Parcel" gilding is chiefly introduced in articles of silver where additional richness is desired, as in the knop and cup of a chalice. It consists simply in gilding the portions intended to show, as gold "burnishing" is still, as in mediæval times, effected with burnishers made of hard stone, such as agate and blood-stone.

Wrought-iron work, the last but not least important branch carried on in these works, and forming a leading item in the list of decorative processes in working metals, has been, in excellence of workmanship, the most successful of all the arts revived by this firm, for they have shown that if the public will only pay for the art workmanship required, they can produce works equal, if not superior, to any of the old works in iron.

The methods adopted are very various; some objects are wrought in the ordinary way, others are sculptured in cold iron. The floreated hinges where veins, ribs, or moldings occur, are generally produced by striking the iron while hot into the form required, the strips or bars being bent into their convolutions or floreations. Leaves also, where foliage is introduced, are struck in like manner to produce the veins, and afterwards welded on to the stem. Occasionally, however, the veins, both on the stem and leaves, are sculptured as were the birds and other adornments of the hinges on the doors of Nôtre Dame at Paris. The twisting of square bars, which give such variety when introduced into railings, is effected by heating the bar at the part intended to be twisted, holding the bar in a vise, applying a wrench and twisting the bar round. When the twist in one position has reached the desired pitch the iron is cooled; if the work is inaccurate the part is reheated and the error rectified, or the part still hot twisted more.

Plenty of cheap iron-work, misnamed wrought, is to be seen now, but comparitively little good. The leaves look as if cut with tinmen's scis-

sors, and the beating is nothing more than the administration of two or three blows with a round-faced hammer on a wooden block, then the whole is daubed over with paint to hide defective workmanship. There can be little doubt that, as good taste grows, the public will appreciate to a higher degree good genuine wrought-iron work, than which no work in metal can be more artistic and at the same time endurable. Such is the revived art of metal-working as carried on at King Edward's Works in Birmingham by the firm I have named.

The late W. C. Aitken, a gentleman well known in this town in connection with metal-working, with which branch he was concerned for over thirty years, speaking of the state of things before the revival of art metal-working by Mr. Hardman, says:

Modern gold and silver smiths had ceased to be artists. The blacksmith's craft, once hardly less artistic than that of his brother artificers in the precious metals, had now become purely mechanical. The true character of metal work had everywhere been lost sight of. The press, with its punch and bed, had replaced the delicately beautiful process of saw-piercing; the stamp and the die had usurped the province of the beater up; chasing had degenerated into a mere process for giving a mottled appearance to portions of the surface of an object in metal, appropriate texture being altogether ignored; engraving carelessly executed had gone off into the regions of rococo, or had been subverted into the production of meaningless scrolls, queer shells, and impossible birds. Enameling in its true sense was almost a lost art, and where practiced was most imperfectly executed, the colors being confined to a translucent blue, and the black introduced in mourning rings and brooches. Repoussé in its delicacy and beauty, was only occasionally in its integrity practiced in France, where it was revived in 1838. In brass-work the color, as well as the reflective and ductile properties of the metal, were all partially obliterated in the hands of the caster. It was dimmed by the acid finish, produced by "dipping," and falsified by the process of bronzing. Iron, the national metal, worked by English blacksmiths of old into such quaint, graceful, curious, and involved forms, uniting ornament with use, or in the hands of continental metal-workers, Matsys, Peter Vischer, and Nuremberg, artificers, forged into well-cover, and grille, ornamental door-handle, and floreated hinge, such as even yet, decayed with rust, and broken, startle us with the artistic beauty of their conception, the boldness, freedom, and minuteness of execution, so nobly employed of yore, had now, for all ornamental purposes, been consigned to the mere caster and molder.

Among the many great works of importance executed by this firm are those for the British Houses of Parliament, Alton Towers, Lismore Castle, Chink Castle, Ely Cathedral, Magdalene College, Oxford, Eton College Chapel, the Church of St. Barnabas, Pimlico, All Souls' Church, Halifax, Frome and Selwood Churches, and the venerable Church of St. Martin, the mother church of Birmingham, the cathedrals of Litchfeld and Worcester, Berry Hall, the cross of the Archbishop of Canterbury, the cross for the Bishop of Toronto, &c.

STAINED GLASS.

Having gleaned as much information as I considered necessary for one portion of my report, I then turned my steps to the stained-glass works at Newhall Hill, founded by the same gentleman and at present carried on by the firm of John Hardman & Co.

Stained glass ought not to be studied only by the canons applying to all decorative art, but also with a knowledge of the technicalities incidental to the art itself. There are, first, the spaces to be dealt with and the consequent adaptations of the designs to meet the difficulties thus imposed on the art; secondly, the fact that the light comes through the subject treated, and is not thrown on it, as in all other arts; and, lastly, the materials used by the artist.

The spaces a stained-glass artist has to deal with are usually long and narrow, and it is not a good thing as a rule to carry the groups

over several lights, at least this does not appear to have been the practice of the early artists; but if it is done, the figures should be so arranged as to be complete in each light. It is only in very late glass, such as may be seen at St. Gudules, Brussels, that the subjects were treated right across the window, as if it were a canvas, and even then the artist has so arranged his groups as to avoid as much as possible the mullions cutting his figures. The necessity of dealing with such narrow spaces is often the cause of the piling up of the figures one above another in a subject, which is a cause of mirth to those ignorant of the art, whereas to the student it is a mark of knowledge. Then, again, the artist should suit his design to the architectural style of the window he has to fill, for it is as great an anachronism to place a design of the fifteenth century in a stone framework of the thirteenth century, as it is to introduce the prim lines and conventional forms of early English glass in the flamboyant stone-work of a late period. The greater picturesqueness and more flowing lines of the perpendicular glass have stronger attractions for most people than the vigorous but archaic drawing of the Norman style, yet to place glass of the former period in the simple but severe stone-work of the latter period, is destructive to both; nevertheless this is frequently done by modern artists, if I am correctly informed.

The fact of the light coming through the glass prevents the artist having the assistance of reflected lights and intensified shadows, as in the art of painting; nor, again, has he the advantages to be obtained from relief like the sculptor or carver.

The third and greatest difficulty that the stained-glass artist has to contend with are the materials he has at command, and it is the correct and successful treatment of these that distinguishes real stained-glass art from false. At the origin of the art each color was on a separate piece of glass, and this was a most fortunate necessity, for no subsequent discovery or method of treatment has ever produced so brilliant an effect as the mosaic glass. When different colors are obtained in the same piece of glass it is done by the process of enameling.

A short description of the process of making each kind of glass will enable it quickly to be seen why the advantage lies with the mosaic glass.

The mosaic glass, commonly called antique by the modern glass-makers, is what is known as "pot metal," that is, each color is part of the material of the glass, and is mixed with it in the making, so that the sheets when blown are blue, or green, or yellow, as the case may be. The exception to this is "ruby" or red glass, which is a flashed glass, that is, the color is only a thin layer on a bed of white glass, and the ruby glass is thus treated because it is so intense a color that if made in sheets thick enough for ordinary use the color would become opaque, or even absolutely black. This pot-metal glass has the further advantage that it can be blown of irregular thickness and uneven texture, whereby brilliancy can be obtained by every refraction of light. This is an advantage to the stained-glass artist, who wants his work to be looked at and not looked through, for if the latter were the case, the more even the texture and thickness the better, whereas with the irregular glass the artist gets both brilliancy and variety of tone.

The enameled glass is made by covering such portions of a sheet of white glass as it is desired to color with another glass in a powdered form, which, when subjected to heat, melts at a lower temperature than the glass on which it is placed, and thus causes a second vitrification.

But by this method it is impossible to obtain either the depth of color or the brilliancy of the "pot-metal" glass.

It being requisite, in consequence of what has just been said, to have the different colors on separate pieces of glass, it follows that the cartoon for the window should be drawn to allow of the "leading up" of the subject of the design without making the necessary lead-panning obtrusive. Herein lies the chief difficulty of the stained-glass artist, and he shows the greatest knowledge of his art who meets the difficulty most successfully. In the earlier styles the principle of making the drawing to suit the leads was most strictly observed; every lead-line was so drawn as to meet another and at the same time to form part of the design, so that were only the outline formed by the lead to be seen the subject of the drawing could frequently be told. Joint leads were very sparingly used, but in later times, when the pieces of glass used were larger, joint leads became more frequent; but the same principle held good, and the more it was observed the better the glass.

I am informed it is a common practice in modern mediæval glass (if such a term is admissible) to use innumerable joint leads; in fact, to make the window look as if it had been leaded up in fragments. This is considered by experts a mistake. The real mediæval glass looks so now, because in the course of centuries it has got broken and has been repaired, but if closely examined it will be found that the original artist never used a joint lead if he could avoid doing so. Messrs. Hardman assert they have conscientiously kept to their original text of producing stained glass after the styles of the thirteenth, fourteenth, and fifteenth centuries, both in drawing and materials, and their artists and the workmen, almost without exception educated by the firm from youth, have been taught first and foremost to look for their examples in the works of the three centuries mentioned. They have sent students to all parts of England to copy specimens of old work. This is the secret of the purity in style of the works of this firm above all others.

Mr. John Hardman Powell, a member of the firm, in a paper on "Ancient stained glass," read before the Birmingham and Worcester Architectural Society's meeting in 1857, thus describes the old glass:

> The ancient windows were composed of what are technically called pot metals, that is, pieces of glass colored in the melting pot entirely translucent, upon which the subject was drawn in opaque lines and partially transparent flat shadows. These pieces were then set into grooved lead bands, which formed the outline; the figure, group, or ornament thus completed having been arranged to fit geometrical or straight panes of T-shaped iron work, to which it was fixed by cotters. And after many centuries, even in our own days of mechanical ingenuity, no better plan can be devised for its firm construction.

Such likewise is the present mode of producing stained-glass windows.

THE ROUTINE OF THE WORK.

First, upon receiving from their clients a plan of the proposed stained-glass window, they submit a design, generally of the scale of about one inch to the foot, for approval. This design is then drawn out full sized by the cartoon artist, and the leads all marked in black color, so that the cutter, by placing the glass on the cartoon, can then see the forms of the different pieces of glass he has to cut. A window even of small dimensions when in this state consists of hundreds of pieces of pot-metal glass of all sizes, shapes, and colors.

The next process is to paint the designs on the glass from the cartoon with the brown and yellow stains and opaque lines, and then to burn

these permanently into the glass in the kilns. The glass is now ready to set in the grooved-lead bands, as already described in the old glass, and after the joints are soldered the window is ready for erection in its place.

One very exceptional and praiseworthy circumstance attends the work of this eminent firm. They have, with but a few rare exceptions and those only for special reasons, never repeated their subjects, but each one has been designed and carried out in the style of the stone-work it was intended to fill.

One of the most fascinating attractions to the American traveler is to wander through the time-honored cathedrals and the venerable Norman-towered churches of Old England, an occupation which calls forth emotions little less stirring than those created by traversing the pavements of halls made historical by kings and parliaments.

In the work of renovation of many of these grand old structures Messrs. Hardman & Co. have taken their part. Of the cathedrals, those at Carlisle, Worcester, and Lincoln, the churches of Aston, St. Martin's, Reckenham, and Newbury, the College of Magdalen at Oxford, the University of Aberdeen, and the Houses of Parliament at Westminster, form but a few of the leading buildings in which the works of this eminent firm have found a place.

I am greatly indebted to Mr. John Bernard Hardman for much of the valuable information furnished by him which forms a part of my report.

JOS. B. HUGHES,
Consul.

UNITED STATES CONSULATE,
Birmingham, February 10, 1887.

LEAD AND WHITE LEAD IN FRANCE AND EUROPE.*

REPORT OF CONSUL WILLIAMS.

LEAD.

Lead is one of the metals that has been employed from the earliest periods.

The existence of pure lead is considered doubtful. It is generally found as a sulphuret, phosphate, carbonate and sulphate in England, Saxony, Hartz, Prussia, Austria, Savoy, Spain, France, and Italy, of European countries.

ENGLAND.

England produced, in 1839, 51,140 tons of lead; in 1854, 61,000 tons, valued at $7,015,000. In 1858 the production was 973,903 metric quintals of ore, worth 34,268,150 francs, and 693,967 metric quintals, worth 37,225,125 francs; the value of the product of that year in the United Kingdom was £1,489,005, and the quantity was 68,303 tons. In 1860, the yield was 900,221 metric quintals, worth 31,178,446 francs, and 642,577 metric quintals, worth 35,733,042 francs.

In 1860 England imported 8,231 metric quintals of lead ore and 225,037 of lead (metal). The exports for the same year were 241,539 metric quintals of lead (metal); general consumption, 908,452 metric quintals of ore and 626,075 of lead.

*See Consular Reports No. 73, January, 1887, p. 57, and No. 74, February, 1887, p. 492.

SPAIN.

Spain abounds in lead. It is found rising from Malaga to Almeria, and in the Sierra Morena, near Linares. As long ago as 1860 it was estimated that in Almeria alone more than 200 lead mines were worked, and 500 had been abandoned for want of working capital. Mines are worked in the provinces of Murcia and Jaen. In Murcia 200 mines were worked in 1856, and 1,200 in 1857; the number of workmen employed in 1856 was 8,400, which rose to 10,000 in the latter year.

It is stated in regard to the mines of the Sierra de Gador, that in the days of their prosperity 20,000 workmen were employed, who turned out 40,000 tons of lead annually. The mines of Estremadura only await fuel for turning out vast quantities of ore. Mines are also worked in other parts of Spain, Teruel, Belmonte, La Selva, and the Cantabrian provinces.

Petitgaud estimated the annual product of lead in the south of Spain, from 1823 to 1845, at 584,754 quintaux.

In 1851 the region of Carthagena produced 396,681 quintaux, and Almeria 554,964, and the same two regions produced in 1852, 323,930 quintaux and 506,994. In 1854, 9,433 tons of lead, valued at 21,000,000 francs.

In 1857, 500,000 marcs was the estimated value of the lead production of Spain; the product of this year in the province of Murcia, which had been in 1856, 15,825,000 kilograms, representing a value of 7,243,000 francs, was raised to 16,732,000 kilograms, valued at 7,706,000 francs.

In 1856 Spain produced 552,163 quintaux of pure lead, 202,926 of galena, and 27,605 other lead ores, and 1,382 quintaux of minium and litharge.

In 1858 the product inspected in Almeria was 507,186 quintaux, and Murcia or Carthagena 369.408.

In 1859, first inspection, 535,000 quintaux; second inspection, 359,448. In these figures the lead not inspected was not included.

The works of Linares alone treated in 1858, 61,625 quintaux, producing 39,814 quintaux of lead from first and second smelting, an average of 60 to 64 per 100. In 1859, 63,623 quintaux, yielding 40,225 quintaux of first and second smelting, an average of 63.27 per 100.

In the ports of France, Belgium, and Holland, Spanish lead then sold for 60 to 65 francs per quintal.

In 1849 Spain exported to Great Britain lead in bars of the value of 1,119,000 francs; in 1850 to the value of 2,634,000 francs. In 1857 Spain exported a total amount of lead of 1,156,876 quintaux, being 66,945 quintaux more than 1856.

During the year 1857 the shipments of lead from the port of Seville alone, chiefly for France and England, amounted to 974,000 francs, and from the port of Carthagena 16,752,000 kilograms, amounting to 7,706,000 francs.

In 1858 the exports of Spain to Great Britain were 128,382 quintaux of lead in sheets or bars, and 3,099 quintaux of lead ore, valued at 90,957,000 francs.

PORTUGAL.

Portugal produced, in 1857, 38,000 arobes (an arobe=about 32 pounds) of galena, which yielded about 65 per 100 of metal, which, at the then market value of 33.33 francs per quintal, yielded 205,812.25 francs. Its imports of ore from Spain were 1,832,000 pounds, and the figures have varied but little since that date.

THE DUCHY OF NASSAU.

The mines of argentiferous lead of Pfintgsturise and Lindenbach are most extensive; the former has been worked since 1747, and the latter since 1773, and remained under water for fifty years, work having been resumed in 1856. The product of these mines in 1860, in argentiferous lead ore, copper, tin, and zinc, was 2,000,000 pounds of lead, 4,000 pounds of silver, and 12,000 quintaux of zinc.

The silver is sent twice a week, cast in the shape of a ball, to Frankfort, and the lead and litharge to Cologne, Mayence, and Switzerland.

The depths of these mines are respectively 315 feet and 187 feet; 1,000 men are employed in these mines, and 60,000 francs of wages are paid monthly.

PRUSSIA.

The most important mines are those of Commern, on the left bank of the Rhine, although they are also found on the right bank, and the ores are rich in silver.

In 1855, 174 mines employed 6,572 workmen, and produced 473,154 quintaux of ore, valued at 1,411,794 thalers.

In 1856 the price of lead was remarkably high, 6¾ to 7 thalers per cwt., and the provinces of the Rhine and Westphalia turned out 30,000 tons.

In 1857 the product of lead was 308,762 metric quintals.

In 1860 the product of lead and litharge was 16,936 tons, valued at 7,513,362 francs.

AUSTRIA.

In 1859 Austria produced 1,912 tons of lead, valued at 406,543 francs; in 1855, 406,962 tons of litharge; in 1859, 1,280,351 tons of litharge.

BELGIUM.

The amount of lead extracted in Belgium in 1841 was 84 tons; value, 8,000 francs. In 1850 this amount was increased to 3,854 tons, valued at 477,775 francs; in 1853, 45,842 quintaux were produced; in 1854, 78,019 quintaux; in 1855, only 59,954 quintaux. In 1859, 14 concessions of lead yielded 69,935 quintaux, worth 1,440,119 francs, and from eight works, employing 223 men, 47,360 quintaux, had been turned out, valued at 2,280,056 francs.

Belgium has produced from 8,000 to 10,000 tons per year, and can readily furnish that amount when it is required.

FRANCE.

Twenty-seven grants of lead mines had been made in fourteen departments of France previous to the year 1861. Six of these were in the department of Puy-de-Dôme, and four in that of Lozère. Eleven were worked in 1858. Among these were the mines of Poullaouen and Huelgoat, in the department of Finistère; Pontpean, in Ille-et-Vilaine; Vialas, in Lozère, and Pontgibaud, in Puy-de-Dôme. The works of these mines extracted, in 1847, 344 kilograms of silver, worth 673,674 francs. During the same year, including the ore treated at Saint Mamet (department of Haute-Garonne), the product in silver, litharge, and lead was valued at 1,011,389 francs.

In 1848 the product of silver was greater, and that of lead less. In 1849 and 1850 the silver, litharge, and lead extracted exceeded a million

francs in value. In 1851 the silver alone yielded the amount of 1,522,874 francs, and the lead 587,751 francs.

In 1852 the value of silver, lead, litharge, and gold, which appeared for the first time in any quantity, exceeded 2,500,000 francs, the gold alone amounting to 62,261 francs. It was then estimated that France imported 21,000,000 kilograms of lead per annum, at an average cost of 500 francs per ton, the labor upon which was estimated at 100 francs per ton. The English factories then smelted and rolled three times as much lead in twenty-four hours in their furnaces as the French could.

The principal ports of entry for lead in France are Havre, Marseilles, Nantes, Rouen, Dunkirk, and Bordeaux. Lead is brought from Germany and Belgium into France, which countries at the present furnish by far the greater portion of the lead used in the manufacture of white lead in the north, it being offered at a lower price than any other lead. Large quantities of zinc and lead ore are brought by the Royal Asturian Mining Company (a French company) from their mines in Spain to Dunkirk in vessels, thence transferred to canal-boats and taken to their works at D'Auby-les-Douai, in the north of France, situated on the canal and in the coal region, where they are smelted, cast, rolled, &c.; thence they are readily and cheaply distributed by canal throughout France. This company cast their pigs of lead of an average weight of 35 kilograms each, others vary from 35 to 50 kilograms.

The prices of lead in this market are 32 to 35 francs per 100 kilograms; 33 to 36 francs per 100 kilograms at Paris, 4½ per cent. cash discount. The price is 32 francs at Lille per 100 kilograms, 2 per cent. off for cash.

Lead pipe of ordinary size sells for 44 francs per 100 kilograms, extra sizes at 47 francs. Large quantities of sheet lead are required in chemical works, of which there are many in this part of France, for the construction of chambers in the manufacture of sulphuric acid. This article is now worth 35 francs per 100 kilograms. Lead pipe here, as elsewhere, is in but little use for gas and water conductors. The manufacturers and importers of lead state that they strive to mine as little lead as possible so as not to overstock the market, and await with anxiety such an advance in the market price of lead as will make mining profitable.

Product of lead mines of France.

Years.	Number of mines.	Departments.	Wages.	Number of workmen.	Weight.	Value.
		Lead, sulphuret.	*Francs.*		*Metric quintals.*	*Francs.*
1853		Gard, Loire, Rhône	67,455	123	297	12,815
1854	8		108,000	293	358	9,805
1855	5	Gard	142,668	257	50	1,350
1856	4					
1857						
1858	1		16,000	80	255	10,880
		Lead and silver.				
1853	12	Hautes-Alpes, Ille-et-Vilaine	333,330	1,218	423,888	711,969
1854	23	Finistère, Puy-de-Dôme	645,547	1,905	562,662	1,040,420
1855	22	Loire, Hautes-Pyrénées, &c	856,707	2,202	640,408	1,576,171
1856	20		1,004,866	2,030	685,616	1,222,514
1857	20		806,710	1,679	596,964	1,502,079
1858	18		871,711	2,425	561,459	1,545,365

In 1876 thirty-two mines produced 9,000,000 kilograms; 1884, the product was 13,236 tons, at 246.84 francs per ton = 3,267,072 francs; 1885, the product was 14,972 tons, 249.55 francs per ton = 3,736,373 francs.

From the most reliable sources of information the annual yield of lead in Europe would amount to from 260,000 to 270,000 tons, divided as follows:

Countries.	Yield.	Countries.	Yield.
	Tons.		*Tons.*
England	70,000 to 80,000	France	20,000
Spain	50,000 to 60,000	Belgium	10,000 to 12,000
Germany	50,000 to 55,000	Austria	8,000 to 10,000
Italy	30,000 to 35,000	Russia and Sweden	2,000

In 1876 France imported 14,808,482 kilograms of lead ore, value 4,146,375 francs (an average of 28 francs per 100 kilograms).

American lead is subject to duty on entering France of 3.60 francs per 100 kilograms. The treaties with European countries exempt their product from duty.

SEPARATION OF LEAD FROM THE ORE.

The sulphuret of lead alone furnishes more than .999 of the lead of commerce. It always contains silver, especially when found in thin layers, in which case it is treated as silver ore. The extraction of lead is so simple and varies so little that a very brief allusion to the mode adopted in France will be cited. It is probably the process almost universally adopted.

The process varies with the richness of lead contained in the ore, and the nature of the waste adhering to it. In every case the mineral is assorted, stamped, and washed with more or less care, in order to separate as much of the earthy matter as possible.

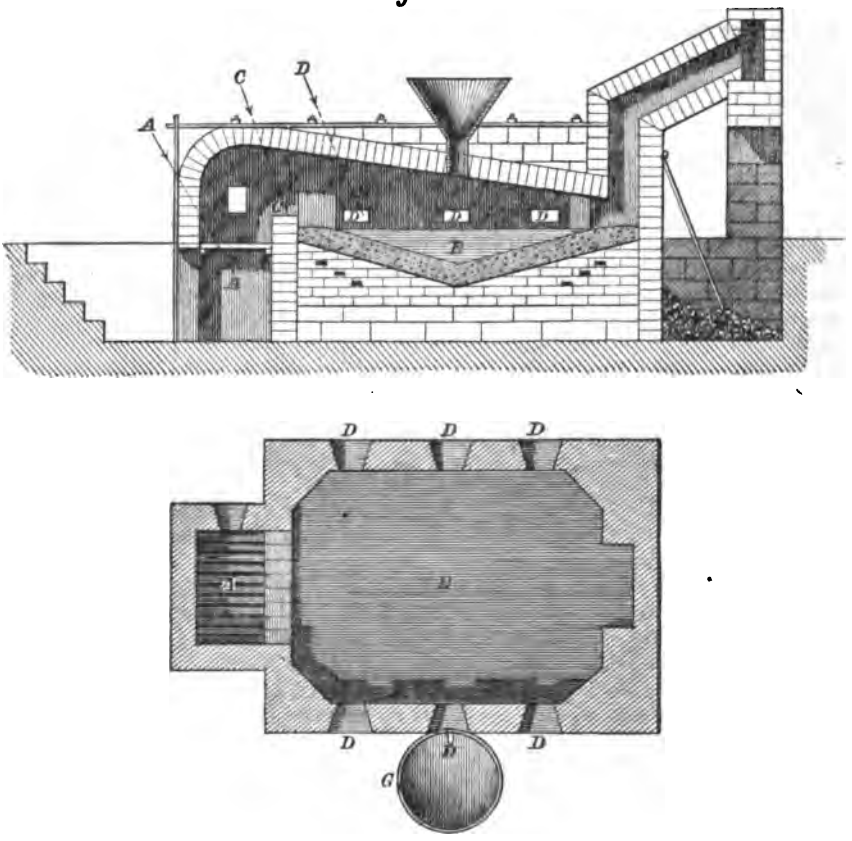
(1) When the galena is quite impure, it is reduced by charcoal, after having been roasted in the open air to change the largest part of the sulphuret into sulphurous acid gas. The residue of this roasting consists of oxide and sulphate of lead, which is heated with charcoal at a high temperature in a portable furnace. The oxide is soon reduced, and yields up the metallic lead, which flows into a receptacle, but the sulphate returns to the state of sulphuret leaving a remainder, which requires to be again roasted and melted.

(2) Flinty ores are treated directly in a reverberatory furnace with old iron, or granulated cast iron. By reason of the greater affinity, the iron extracts the sulphur from the lead; the residuum is metallic lead and a thin liquid sulphuret of iron which flow together into a first receptacle. The lead falls to the bottom; and to separate it from the sulphuret which surrounds it, it is poured into a second basin.

(3) A third method, called the "method by reaction," is applied to rich galena, free from rock, such as is found in Derbyshire and Northumberland, Carinthia, and in the works of Brittany. It depends upon a series of curious reactions. At first the pulverized galena is spread in thin layers over the bed E of a reverberatory furnace brought to a dim red heat, thus liberating the sulphurous acid, and producing a great quantity of oxide and sulphate of lead. After roasting moderately for several hours, all of the doors D D D are closed, and full blast is let on. The oxide and sulphate of lead, reacting upon the unchanged sulphuret still remaining in great quantities in the mass,

produce sulphurous acid and metallic lead, and the latter falls into the receptacle G.

Fig. 1.



When the ores are not argentiferous, which is seldom the case, the lead thus obtained is fit for market, but when the metal contains enough silver to pay for treatment, it is worked under the name of silver lead (*plomb d'œuvre*) by a process called cupellation, applied to this particular separation.

WHITE LEAD.

White lead was known to the Greeks and Romans. Theophrastus, Cresius, and Dioscorides described its preparation in detail, and Pliny asserted that it was manufactured and held in high esteem at Rhodes. It was used as a cosmetic by the Roman ladies, also in oil painting and medicine.

After the fall of the Roman Empire, the Arabs appear to have been the first to manufacture this article. Afterwards it was produced at Venice, then at Krems, later in Holland, England, and many parts of Germany, but was not attempted in France until the present century was well advanced.

In 1801, France did not possess a single white-lead factory. Thénard then proposed a mode of moist treatment in its preparation, claiming also greater expedition and economy than by the Dutch process, but this was not tested until 1809 by Breschoz and Lescure, at Pointoise, and afterwards taken up and worked on a large scale by Roard in his factory at Clichy.

Many attempts have been made to manufacture white lead; of these only three methods have met with general success. These are the Dutch, French, and English processes. The same general principles apply to all, although the means by which they obtain the result differ greatly.

DUTCH PROCESS.

The Dutch process is the oldest, and is most generally adopted in Holland, England, Germany, and about Lille and Paris, and has been so modified and improved, that this industry, formerly so prejudicial to health, has become, if not entirely harmless, at least no more prejudicial to health than most of the chemical manufactures.

The lead is selected, and care is observed that it should be as pure as possible, and above all free from iron, then melted and cast into thin sheets, either solid or open, in grates.

The sheets are rolled up (PP, Fig. 2) then placed in an earthen pot holding about 1 liter, and resting upon supports B, arranged in the interior of the pots a short space from the bottom. Into each is then poured one-fourth liter of vinegar made from wine or beer.

Fig. 2.

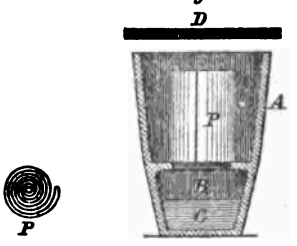
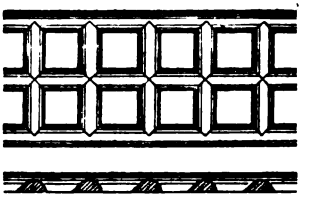


Fig. 3.

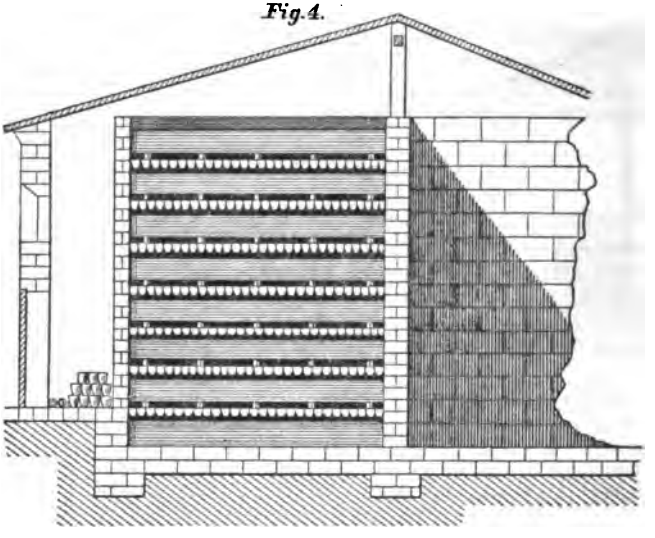


When grates are used (Fig. 3) they are placed on the top of the pots, which are then wider and more shallow than the others. In both instances the pots thus prepared are arranged in greater or less numbers in the pits, or more frequently in the constructions of masonry, about 10 feet long, 13 feet wide, and 20 feet high. This is all surrounded by a thick coat of old litter, and the middle is spread with fresh litter about 16 inches thick. On this fresh bed are placed about 1,200 pots. These are covered with plates of lead (Fig. 4), and upon these are placed joists 2½ to 3½ inches square, leaving spaces of about 3 feet between. The whole is covered with jointed plank, upon which a new bed of litter is spread; then comes a second row of pots, and the same process is continued until the entire space is filled with pots and litter, and the whole is covered with litter and presents the appearance of Fig. 4. Some works substitute tan-bark for litter.

The lead remains in the pits from six weeks to two months, and in case that tan-bark is used, for three months. The following changes take place in the interior of these pits during this time. Under the influence of the heat developed by the fermentation of the litter the acetic acid of the vinegar, together with the vapor of the water, is volatilized, and sur-

rounds the sheets of lead, and accomplishes their oxidation by means of the air, which has free access; the oxide formed combines with the acetic acid and the water in such a way that, gradually acting upon these sheets, a bed of hydrate and subacetate of lead is produced.

Fig.4.



The decomposition of the litter gives out a great quantity of carbonic acid, which, coming in contact with the sheets of lead, reacts upon the subacetate, takes away two thirds of its oxide to form carbonate of lead, and is brought to the state of a neutral acetate; the carbonate and hydrate of lead by their union form white lead. This series of operations, repeating itself many times, changes nearly the entire sheets to white lead.

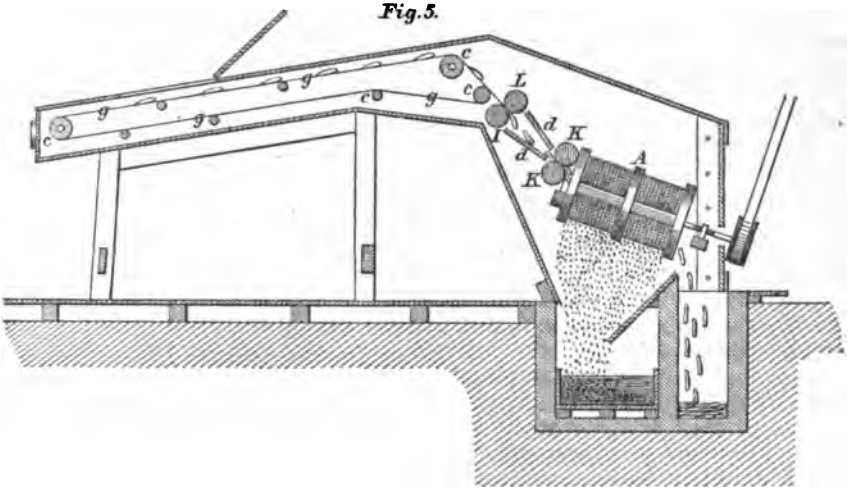
The coils of lead preserve their form, but are covered with a hard, grayish crust. This is white lead slightly colored by sulphuret of lead, formed by the escape of sulphureted hydrogen from the decomposition of the litter or tan-bark. At Krems, and in parts of Germany, this inconvenience is avoided by placing the pots in ovens heated to 90° or 100° Fahrenheit by means of stove-pipes running through them.

When the beds are removed and the pots taken out, the charred sheets are carried in small tubs to the wash-house, where the separation of the carbonate from the metallic lead begins. Previous to 1842 this dangerous operation was performed by moistening the sheets slightly, after uncoiling them, and beating them with sticks. It was this part of the work which produced such great fatality among the workmen, constantly surrounded with dust of lead.

This work is now done by a machine inclosed on all sides (Fig.5). The unrolled sheets of lead are placed on an endless piece of fine cloth (*ggg*) spread over rollers, which carry them between the first pair of fluted rollers (LI), where the crushing process is begun; thence they descend on inclined planes between two other fluted rollers, (KK), which detach all of the scales. These pass under an inclined bolter (A), which has a constant rotary motion. The remnants of the sheets, after the scales have been separated from them, pass out of the opposite end and fall into a receptacle, whence they are taken to be again acted upon in the

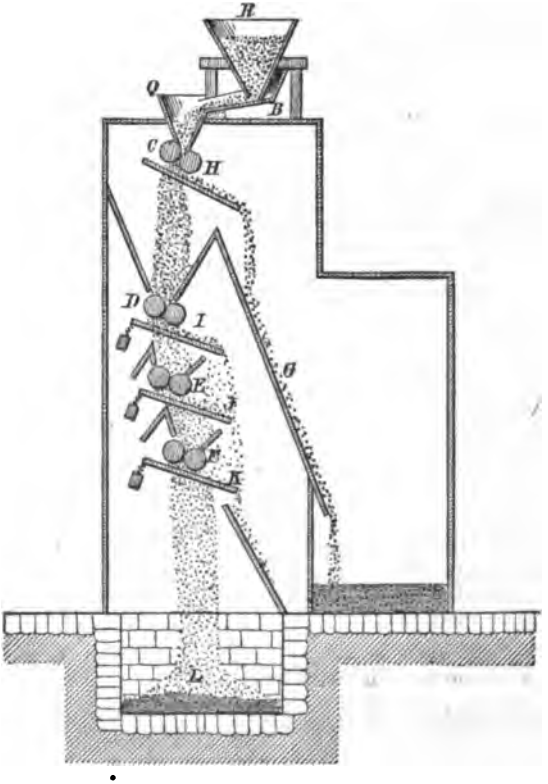
pits or remelted. The scales pass across the metallic cloth of the bolter and are gathered up to be ground.

Fig. 5.



The grinding of the flakes is mechanically performed and without danger to the workmen.

Fig. 6.



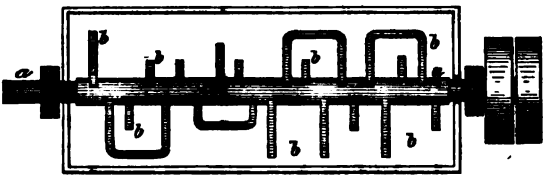
These are placed in the hopper R (Fig. 6) of the crusher and hermetically sealed by a covering of boards. They fall fast upon the conductor B, thence pass into a second hopper (2), and pass afterward between a pair of fluted cylinders (C) and successively through three other sets (D E F). The lead which still adheres to the scales slides off upon the inclined plane (G), while the white lead, after having passed through the sieves (H I J K), falls into the pit, whence it is taken to the mill, after having been mixed with water.

The next process consists of placing the moist white lead between horizontal millstones, through eight of which it is successively passed, and comes out in a fine paste, which is received in the buckets of an elevator to be exposed to dry in the open air. Then the white lead is placed in porous pots, conically shaped, each holding 1½ kilometers. These pots, or moulds, are placed on shelves one above the other and left for eight or ten days, during which time the greater part of the water evaporates, and the loaves become firm and are easily turned out of the moulds. These forms are placed on the floor of a dry-house for four or five days; they are then placed in an oven heated from 108° to 140° Fahrenheit, where they remain a fortnight or three weeks.

The loaves which have kept their form are then wrapped in blue paper and packed in barrels for market. The broken loaves are reduced to powder in nut-mills, and the powder falls into bins closed with double doors. This powder is packed into barrels by the aid of a wooden circular almost as large as the interior head of the barrel, which is cautiously screwed down to prevent its rising, to the detriment of the workmen.

Another portion of the white lead is sold in the state of paste. This mixture is made in horizontal mills or cylinders (as seen in the longitudinal cut No. 7), which resembles the machine used by bakers for

Fig. 7.



kneading. The square axis (*a*) which penetrates this cylinder through its entire length carries some paddles (*b*) for stirring and mixing the material. From 8 to 10 per cent. of a mixture, consisting of two-thirds poppy oil and one-third linseed oil, are added to the white lead crushed in water. The poppy oil has the faculty of separating the water from the white lead; 300 kilograms of white lead in paste contain about 60 kilograms of water. When the oil is well incorporated in the white lead by means of the movement of the paddles, the paste that is taken from the cylinders passes through three crushing cylinders, which reduce it to the proper condition. It is then put into barrels.

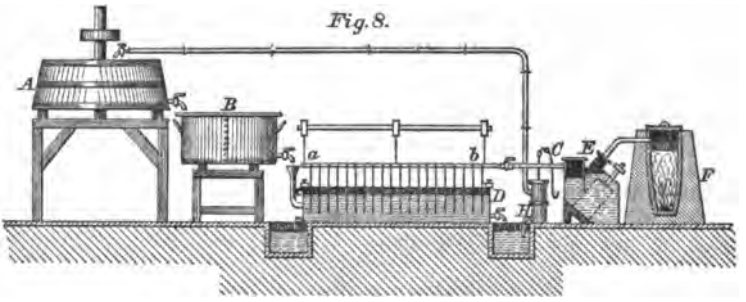
White lead mixed with oil keeps well for a year. Desiccation then commences at the surface.

FRENCH PROCESS.

This process depends upon the action of carbonic acid upon the subacetate of lead. At first this salt is prepared by means of litharge, and

released acetic acid arising from the fermentation of molasses and British gum. These materials are placed in a wooden vat, A (Fig. 8), of 200

Fig. 8.



hectoliters capacity, and, having a dasher moved by steam, thus rapidly, and without the application of heat, the solution attains a temperature of 17° to 18° Baumé; it is then poured into a tinned copper reservoir, B, of 190 hectoliters capacity, where it is clarified and deposits all substances foreign to the oxide of lead that the litharge contains; that is to say, metallic lead, iron, copper, earthy matter, and even chloride of silver (which is found in the proportion of 4 to 6 one-thousandth parts). The clarified solution is then passed into a great basin (C D) of tinned copper, large and shallow, of about 90 hectoliters capacity. This basin is covered by a lid traversed by 800 small tubes. These extend through two-thirds of the liquid surface and in the upper part communicate with a large tube (*a b c*) containing the carbonic-acid gas which must react upon the subacetate of lead and change it to a state of neutral acid and take away two-thirds of its base to form the white lead which is precipitated. The carbonic acid was at first made from charcoal, but since then a more economical plan has been adopted by substituting limestone. In a small furnace 2 meters high (F) alternate layers of coke and limestone are placed; the furnace is then hermetically closed on top; but by means of lateral pipe it is put in communication with an Archimedean screw (E), which draws up the carbonic produced in the furnace, thus aiding the combustion by its own, and forces the carbonic acid into the 800 small distributing pipes. After remaining twelve hours in this situation the sub-acetate of lead being completely reduced to the state of a neutral acetate, the passage of the carbonic acid is shut off, the liquid is left to settle, and when it has done so the deposit of white lead is drawn off by a pump (H), which returns it to the first vat to be saturated with a fresh quantity of oxide of lead and prepared for a repetition of the same process, which is continued until the entire mass has been acted upon.

The white lead deposited in the decomposing basin is taken out, and after being washed several times is subjected to the same manipulations as described in the Dutch process.

If the white lead of Clichy is more brilliant than the Dutch, in return the latter is better separated, more opaque, and covers a greater space of wood or wall. This is accounted for readily, as the Clichy céruse retains, in mixing with the carbonate of lead, more of the hydrate of lead than the Dutch céruse. However, in justice to the Clichy process, it must be admitted that in effecting the precipitation of the subacetate of lead in a warm state and in concentrated liquors, an article of white lead has been obtained fully equal to that obtained by the Dutch process.

ENGLISH PROCESS.

The English process is only a modification of the French process. It consists in moistening litharge, well pulverized, with a one-hundredth part of lead in solution, and placing the paste in slate troughs, closed on top, and communicating between themselves. A current of carbonic acid arising from the combustion of coke is forced by two centrifugal blowers across the beds of oxide which are continually stirred up with rakes mechanically kept in motion. In a few hours all of the litharge is carbonated and changed into white lead of great brilliancy, which rivals the Dutch article.

THE LILLE WORKS.

A brief description of a white-lead factory at Lille, established since 1825, and which has always made use of all modern improvements, will convey a fair idea of the manner in which the work is carried on here. The power used is steam, about 30 horse-power. The price of coal, 12 francs per ton. The gas is made on the premises, the engine rooms and those containing the cylinders have the appearance of being paved with black marble and are kept perfectly clean and polished. The retorts of the gas are all under ground, and when they leak are repaired with a mixture of broken glass, borax, and pipe-clay. This factory during the active part of the season employs 120 workmen, and in the dull season, 80. The annual production is from 1,600,000 to 1,800,000 kilograms, distributed as follows:

	Kilograms.
Scales of white lead	45,000 to 50,000
Powder of white lead	1,100,000 to 1,200,000
White lead ground in oil	150,000 to 200,000

The Dutch system as described herein is adopted in this mill. The beds or ditches of this establishment number 48, built in masonry 3½ feet under the surface, 17 feet long by 13½ feet wide and 20 feet high.

The first tier takes in 1,200 pots. Each bed requires eight 2-horse wagon loads of litter, 300 liters of vinegar, 24,000 liters for the bed; 1,200 to 1,500 kilograms of lead, or about 12,000 kilograms for the pit.

Four workmen can lay two tiers per day, thus completing a bed in four days. The opening of the bed is made by workmen whose hands are incased in gloves. The wearing of these gloves is considered a necessary precaution, although they impede the work.

Twelve thousand kilograms of lead yield about 10,000 kilograms of carbonate of lead and a remainder of 4,000 kilograms of lead not acted upon, which gives upon 8,000 kilograms acted upon a gain of about 25 per cent. The other manipulations of the lead are similar to those hereinbefore described.

The workmen are paid from 3.75 to 5 francs per day.

VARIOUS PROCESSES.

There are various other modifications and improvements, which from time to time have been made or claimed, in the manufacture of white lead, but the work of fully describing them would be interminable. A glance at a few of the names plainly shows that no country can lay claim to a monopoly of inventive genius regarding this manufacture.

There are the processes of Pattinson, Woolrich, Versepuy, Wood, Mullins, Schuzenbach, Sewell, Crompton, de Gannal, Rostaing, Spence, Fells,

Bell (the two last Americans), Braunner, Tyrell, Dale & Milner, H. Robertson, Major, &c., all of which, I presume, are familiar to my countrymen.

The invention of J. Major consists in the manufacture of white lead in close chambers artificially warmed and without the use of tan-bark, litter, or earthen jars. The steam and gas required for the operation are subjected to pressure in these chambers, but the effect can be produced without pressure, but then requires more time. The apparatus used for this especial manufacture consists of independent fixtures to supply the steam and gas chambers and to regulate their distribution, so as to maintain them in a constant state of circulation through these chambers by means of rotary surfaces in the interior of the chamber, controlled by machinery, and upon which the lead is placed. This system requires special treatment to extract entirely the acetic acid and to replace the washing.

The product obtained by this process is said to be free from foreign matter and of superior quality, has no deleterious effect upon workmen, and saves time, as instead of two or three months required by the ordinary process, the same result is arrived at in twenty days, and much sooner if pressure is resorted to.

Braunner's process resembles that of Major, with a few simplifications, especially in avoiding the elevation of temperature, which is considered an obstacle to the oxidizing of the lead.

Robertson claims greater economy by his process, as well as additional security for the health of workmen.

An entirely new mode of manufacture is about to be adopted in works in process of erection near Paris, the particulars of which I am unable fully to explain at present. The patentee believes that his discovery will greatly benefit manufacturers.

There are other rivals to the sole use of white lead and which strongly contest its assumption of a monopoly of the market. Such is the sulphate of artificial barytes, said to be less offensive than the white zinc, and can be delivered in loaves comparatively pure at 22 francs per 100 kilograms. It is known here commercially as "*blanc fixe*" (or fixed white). In Austria it is called "*blanc de plomb de Tyrol*" (Tyroles white lead), and is extensively used in decorations, wall-papers, and glazed cards. This powerful rival is applied like all other subwhites, in successive coats by the aid of strong paste or starch, or with a mixture of starch and silicate of potash in solution. A mixture of white zinc and white barytes has such a consistency that it can be applied with perfect security to touching up old paintings. At Lille, Paris, in the Tuileries and the Louvre its use has been found satisfactory.

A large proportion of the white lead of commerce is adulterated with white substances of less value, such as sulphate of lead, chalk, and barytes. The latter appears to add to its opacity and adaptability for use in fine paintings In the white lead of Venice, the sulphate of barytes comprises one-half; is double in that of Hamburg; and the proportion is 3 and even 7 to 1 of white lead in that of Holland.

In this part of France there are eight large and three smaller white-lead factories, at Lille, and several about Paris of more or less importance. The works at Clichy are no longer in use.

In commerce the white lead is distinguished by the names of the countries of its production, as "*blanc de Krems*" or "*blanc d'argent*" (silver-white), "*céruse*" (white lead) of Rotterdam, Lille, Belgium, Germany, &c. The three first are held in the highest repute, their grain being exceedingly fine and they scale off readily. The white lead of

Lille has attained a high reputation, on account of the great care taken in its manufacture.

There was a syndicate of white-lead manufacturers with headquarters at Paris, until recently, formed for the protection of their interest, but the agreement fell through December 31, 1886, because the price desired to be maintained favored importation.

The prices which now prevail are: Superfine crushed white lead (Penot brand), 46 francs per 100 kilograms; superfine crushed white lead (Lefebre brand), 50 francs per 100 kilograms; in powder, 4 francs less per 100 kilograms; Nos. 1, 2, and 3, 5 francs less per number than the superfine.

The duty on carbonate of lead is 2 francs per 100 kilograms when brought into France unmixed with oil, and 4 francs per 100 kilograms when mixed with oil. The white-lead manufacturers in France maintain that there is no profit in the business at present prices. Germany, Belgium, Austria, England, and Italy offer a strong competition. The scarcity of fuel in the lead-mining districts of Spain enables her only to furnish ore, the home supply of which, as before seen, is altogether inadequate to the demands of France.

In endeavoring to point out the sources of supply and their cost, in France, and more especially in this consular district, I deemed that I best consulted the true interest of the American miner of lead, or manufacturer of white lead, in their endeavors to dispose of their products in this country, which I believe has never been seriously attempted.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, March 1, 1887.

WHITE-LEAD MANUFACTURE IN ITALY.

REPORT OF CONSUL-GENERAL ALDEN.

The precise period of the introduction of white-lead manufacture into Italy is unknown, but it was certainly previous to the beginning of the present century.

Prior to 1881 the Dutch process was exclusively used in Italy. In 1881 the so-called Brumlen and Dahn process was introduced into Liguria. Somewhat later the Rhenish process was introduced.

The Rhenish process is the one in use in nearly all the Italian white-lead manufactories. It is employed in a large manufactory at Cogoleto, as follows:

Lead in thin sheets of about 3 feet in length and 4 inches in width are placed in a clay chamber having the form of a cube, of about the capacity of 5,800 cubic feet. In this chamber there is a wooden framework upon which are hung the sheets of lead. Three of these sheets weigh together about 4½ pounds, and as the capacity of the chamber is about 20 tons it can hold about 30,000 sheets of lead.

On the floor of the chamber are placed twenty-four copper receptacles, each having four circular apertures. These receptacles are all in direct communication with a large pipe of masonry, which, by means of a copper tube, receives the gas coming from a boiler and furnace placed under the chamber. In the boiler, which is also of copper, is placed a mixture of 900 parts of water and 80 parts of acetic acid concentrated

at 40°, and the capacity of the boiler is about 980 liters (equivalent to 25.889 gallons). The furnace serves the purpose of producing carbonic acid.

The gaseous mixture, consisting of volatilized acetic acid, carbonic acid, and aqueous vapor, is admitted from the boiler and furnace into the chamber in quantity and proportions best adapted to each stage of the work.

The chemical reactions resulting are analogous to those which take place in the Dutch process and the Brumlen and Dahn process. Each operation lasts six weeks and gives a product of about twenty tons of white lead, with a consumption of 7 per cent. of acetic acid and nine tons of coke. The residuum of lead is about 10 per cent. of the quantity placed in the chamber.

At the end of each operation the white lead taken from the chamber is washed and purified in large tubs, some of which are furnished with filters.

Finally, it is packed in earthen vessels and dried, when it is ready for the market, and sold either in cakes or powder.

The establishment at Cogoleto, above referred to, is able to produce annually about 2,000 tons of white lead, of which 1,200 tons are produced by the Rhenish process and 800 tons by the Brumlen and Dahn process.

There is also now in a manufactory in Milan the process of revolving heaters. The process of precipitation has not yet been used in Italy.

The Rhenish process, as above described, furnishes the greater part of Italian white lead. The smaller manufacturers still use the Dutch process, but the Brumlen and Dahn process is generally regarded as unsatisfactory.

It is believed that the production of white lead in Italy during the first ten years of this century was about 300 tons per annum. The total annual production at present is, in round numbers, about 3,500 tons, of which 2,800 are produced in the Ligurian manufactories, and about 300 in those of Naples. Milan also produces about 300 tons.

The product finds a market almost exclusively in Italy. The annual amount exported is about 300 tons, and goes chiefly to Constantinople.

Of the quantity of 2,000 tons per annum produced at Cogoleto, about 300 tons is sold mixed with oil. No exact statistics are attainable as to the total amount of Italian white lead which is annually sold, other than in the dry state, but it is believed to be little, if any, larger than 300 tons.

When the price of white lead was high, sulphate of barytes was mixed with carbonate of lead to produce white lead of inferior quality, but in consequence of the present price of white lead the use of sulphate of barytes has almost entirely ceased.

No other methods of adulterations are known to be in use.

In Italy, white lead is universally known as "*biacca*" when it is sold in cakes. When sold in powder it is known as "*carbonato di piombo*," (carbonate of lead).

The lead from which all the white lead made in Italy is manufactured comes from the lead mines of the island of Sardinia, with the exception of a very small quantity of argentiferous lead coming from Spain. The acetic acid now in the process of manufacture comes from France.

The market price of white lead in Italy is now about 45 lire the quintal (equivalent to $8.68 for 220.464 pounds). The market price of the

raw material (lead) is about 33 lire the quintal (equivalent to $6.36 for 220.464 pounds).

The quantity of white lead obtained by the reduction of silver ore is so insignificant as to require no notice.

The average daily wages of the workmen in white-lead manufactories are from 4 to 5 lire (equivalent to from 77 to 96 cents). The cost (for labor alone) of every quintal (220.464 pounds) produced in a well-organized manufactory is estimated to be 5 lire (equivalent to 96 cents).

No American white lead is or has ever been in the market here.

The customs duties on white lead and the materials of which it is manufactured are as follows, per quintal of 220.464 pounds:

White lead	$0 96
Lead ore	Free.
Lead in sheets	57
Lead in pigs	10
Acetic acid, pure	1 93
Acetic acid, impure	Free.

In view of the duty on imported white lead, and the cost of production in and of freight from the United States, and also in view of the quantity of white lead produced in Italy, there does not seem to be any promising opening for American white lead in Italy.

There are in Liguria, and chiefly in Cogoleto, fifteen manufactories of white lead, of which eight are in active operation, and two-thirds of the entire quantity of white lead produced in Italy is produced in Liguria. There are also eight small manufactories in Naples, and a comparatively important one in Milan.

WILLIAM L. ALDEN,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rome, February 14, 1887.

WHITE LEAD IN GENOA.

REPORT OF CONSUL FLETCHER.

Prior to 1861 lead was brought to the province of Genoa from Spain. For the past twenty-five years it (lead) has been brought in its crude state—silver ore—from the mines existing in the island of Sardinia (Italy) to the large smelting furnace at Pertusola, near Piambino, province of Tuscany.

Being an Italian product, there is no duty thereon.

The price of lead is now about $3 per hundred pounds.

White lead in its dry state is sold in quantity at the following rates: First quality, $4 per 100 pounds; second quality, $3.50 per 100 pounds; third grade, $3 per 100 pounds.

To the above prices 15 per cent. is added for lead prepared in oil.

Laborers receive from 77 cents to $1.10 per day. The cost of labor per unit of quantity (?) is a question that cannot be satisfactorily answered. The nearest estimate submitted is that labor costs from 10 to 15 per cent. on the market value of the white lead.

No American white lead can be found in Genoa; it has never been introduced into this city nor into the province of Genoa.

There is no opening for American white lead in this consular district.

The following items may be of interest to American manufacturers of white lead:.

G. Henfrey & Co., an English firm, own the smelting furnace spoken of. Nearly all the white lead to be found in Italy is manufactured in the province of Genoa. Twenty-five per cent. of the manufactured article is exported to other countries.

JAMES FLETCHER,
Consul.

UNITED STATES CONSULATE,
Genoa, Italy, January 29, 1887.

The Dutch process has been in practice many years, and is to-day. Manufacturers of white lead claim this process gives a finer white and better substance to the article. It is *not* known here, however, as the Dutch process.

In the beginning of the present century it is estimated that the production of white lead amounted to between 800 and 1,000 tons per annum. The production fifty years ago amounted to 1,500 tons per annum. The present production is between 3,500 and 4,000 tons per annum.

The white lead manufactured in the province of Genoa finds a ready market in all parts of Italy, along the Levant, and in South America. It is sold mostly in the dry state; only a very small quantity in oil.

Adulteration in white lead was unknown in Genoa until about the year 1862, consequently up to that time it had a splendid reputation. For some years past, however, the manufacturers have thrown upon the market a quality of lead that is said to contain from 50 to 75 per cent. of sulphate of baryte.

White lead is called *biacca* in this province; it was never known here by any other name.

WHITE LEAD MANUFACTURE IN ENGLAND.

REPORT OF CONSUL FOLSOM, OF SHEFFIELD.

The manufacture of white lead was commenced in Sheffield by Messrs. Rawson, Barker & Co. about the year 1750, and is now carried on by their successors, Lewis Berger and Sons, limited, whose more extensive works are located at London. The Dutch process has been followed from the beginning. No estimates of the production in early times exist, but the present annual production is estimated to be about 2,100 tons, or 40 tons a week. The product finds a market chiefly in London, and is sold both in the dry state and ground in oil, as the demand requires. Much of the lead manufactured here is sent in a dry state to the firm's works in London, at Hamerton, and is there ground in oil, or mixed and sold in the form of paint.

Pure white lead is sold by the manufacturers when demanded, and is branded and guaranteed as such; but the product is also largely adulterated with barytes, a substance freely found in the adjoining county of Derby. The prepared carbonate of barytes, ready for mixing with the white lead, is sold at from $34 to $40 a ton. When adulterated with this or other substances the product is stamped as of an inferior grade or quality, and is numbered No. 1, 2, 3, or 4. Another form of adulteration is practiced, which consists in the mixing of German white lead with the local product in the proportion of three parts of the latter with one of the former. This combination, I am informed, is sold by manufacturers and dealers as a pure article and at a rate slightly less than the price for the pure unadulterated English article.

The raw material used in the manufacture of white lead is obtained from various sources; the greater portion of it comes from Spain, some from English mines in Derbyshire, some from Germany, and a small quantity from Belgium. None is received from America. The price of the raw material fluctuates somewhat from month to month, but at this date the price of Spanish lead as quoted in this market is $63.25 per ton, lower, I am told, than at any time within the recollection of local dealers.

Until quite recently the local manufacturers employed from thirty-five to forty hands, but within the past six months the force here has been reduced to 18 men and 4 or 5 women. The men are paid $4.38 to $4.86 a week, working from 6 a. m. to 6 p. m., with half an hour for breakfast at 8 and an hour for dinner at noon. Sixty hours comprise a week's work, and on Saturdays the men enjoy a half holiday from 2 p. m.

There is no American white lead to be found in this market and I am assured it has never been an article of import. In answer to my inquiries several local dealers replied that they had never seen any American white lead in this market. I doubt if there is any opening for American white lead here, as the local product, ground in oil, is now retailed at $5.83 per cwt. (112 pounds pure); at wholesale, pure dry is quoted at $82.73 per ton, and the same in oil, at $97 to $102 per ton. The local demand is not great, as Sheffield is built almost entirely with brick and stone, and takes on its local color from the dense clouds of smoke and soot in which it is almost continually enveloped.

At Hope in Derbyshire, about 13 miles from Sheffield, the Brough lead works are located, producing, however, but a comparatively small amount. Through the courtesy of the proprietor of these works I am able to present the following statement:

The manufacture of white lead was first started in this district about thirty years ago. The method adopted then as now was the Dutch process. The product of these works is sold entirely in the pure dry state to merchants and paint manufacturers in most of the chief sea-ports of the kingdom. It is chiefly made from pig lead smelted on the premises, from ores obtained in this district, containing about two ounces of silver to the ton of pig lead. The price of the ores vary of course with the percentage of galena contained in them. The product does not come into competition with American white lead, as it is not exported to that country.

BENJAMIN FOLSOM,
Consul.

UNITED STATES CONSULATE,
Sheffield, March 9, 1887.

BRITISH SHIPPING INTERESTS AND PROTECTION OF SEAMEN.

REPORT OF CONSUL UNDERWOOD, OF GLASGOW.

I sent letters to the collectors of customs of the nine ports in this district, asking for information upon the amount of tonnage of steam and sailing vessels, and the proportion of iron and wood of each class. Five of the collectors responded, giving number and tonnage of steam and sailing vessels respectively, but not generally making the distinction between iron and wood. No vessels are now built of wood anywhere in this district, excepting fishing vessels and some yachts, and any wooden vessels now registered are few in number, old, and disappear-

ing. Vessels are wholly constructed of iron, or, in preference, of steel. The returns of the five ports are embraced in a tabular statement, herewith inclosed, and to it I have appended a transcript of the registered tonnage of four other ports for the year ending December 31, 1884, that being the latest printed return I have been able to find. The amount of shipping in the four ports is small, and has not probably greatly increased since the date mentioned.

There are in the Glasgow Directory sixty-five names of ship-builders and ship-building companies and firms, and their yards extend for many miles on both sides of the Clyde, and in the harbors and estuaries on the west coast. Acting upon the advice of an officer in the service of an association of ship-owners, I addressed letters to twenty-four individuals, companies, and firms engaged in ship-building, making proper inquiries, and have received replies from most of them. The replies are so varied that it is not easy to tabulate them, and I have therefore made an abstract in regard to the whole, which is herewith inclosed.

There is no bounty or aid, direct or indirect, granted by Government in favor of ship-building; nor have any bounties been granted for ship navigation.

FRANCIS H. UNDERWOOD,
Consul.

UNITED STATES CONSULATE,
Glasgow, December 1, 1886.

REPORTS FROM SHIP-BUILDERS.

[From Messrs. James and George Thomson, Engineers and Ship-builders, Clydebank, Dumbartonshire, Scotland.]

The ship-building and engineering premises of this firm are situated on the river Clyde, about 7 miles from Glasgow, cover a space of about 50 acres, and form the largest and most advantageously situated ship-building and engineering premises in this quarter, and probably in the United Kingdom.

The class of vessels hitherto principally built by Messrs. Thomson have been mail passenger steamers, such as the Gallia, Aurania, Servia, and Pavonia, of the Cunard Line, and the America, of the National Line, and for cargo trade the steamer Lake Superior, of the Beaver Line. This firm has recently added the construction of war ships, having on the stocks or lately completed seven cruisers for Her Majesty's Government, two powerful war ships for the Spanish Government, and a large torpedo-boat for the Russian Government. Several of these vessels are of a new type, with special designs and inventions of Messrs. Thomson.

The firm can build vessels of the largest size yet built, with the most powerful machinery, having shear legs capable of lifting 120 tons at one lift, with a tidal basin 350 feet broad by 720 feet long. The yard is capable of turning out 40,000 tons of high-class constructions per annum, with corresponding machine power.

The rates for building vary so much with the variations in the prices of material and in wages, and with the description of vessel, that Messrs. Thomson are unable to give quotations.

[From the Fairfield Ship-building and Engineering Company, limited, Govan, near Glasgow.]

This company is a reconstitution of the celebrated firm of John Elder & Co. A list is herewith sent showing the number, names, tonnage, and horse-power of the vessels launched from this yard during the period from 1st January, 1870, to 31st December, 1884, being 15 years, the average tonnage of each of these years being 23,215 tons, with a corresponding machine-power of about 26,650 horse-power. The gross tonnage launched in the year 1884 amounted to 32,266 tons, and the machine-power indicated 49,440 horse power. The company informs me that this output could be increased by at least 25 per cent. if desired.

[From William Denny & Brothers, ship-builders, Dumbarton, Scotland.]

This firm only builds steel vessels, iron being a thing of the past. The firm does not build sailing ships, and, with the exception of some light-draught craft for river work, is wholly engaged in the construction of first-class passenger screw steamships. The cost of these varies greatly, much depending on speed (power) and fittings. A steamship of 5,200 tons built this year cost about £18 per ton, and one of 2,500 tons built last year cost £30 per ton, affording an instance of the great variations in prices.

The firm can produce out of their yard and engine factory 40,000 tons gross register of first-class passenger steamships per annum, with corresponding machinery.

[From Barclay, Curle & Co., limited, ship-builders, Whiteinch, near Glasgow.]

The works of this company cover about 16 acres, and the plant is capable of building and engineering the largest merchant steamers, up to 580 or 600 feet long. The company has built over 17,000 tons in the year, which output is capable of considerable increase. The average price of sailing ships built during the current year was about £10 per ton register for iron, for steel ships a very few shillings per ton more, depending on the reductions of scantlings adopted. The firm states that the prices of the steamers built by them cannot be averaged, these varying with size, power, and purpose, cabins, &c. The company are presently building two steamers, one of which is more than twice the rate per ton of the other, and an average would therefore be misleading.

[From Alexander Stephen & Sons, ship-builders, Linthouse, Govan, near Glasgow.]

Alexander Stephen & Sons state that their building yard is suitable for building twelve vessels at a time, and that their engine and boiler works are ample for producing a corresponding quantity of machinery. They can build all sizes and kinds of iron and steel vessels, but do not build in wood.

The present prices for sailing ships may be stated, approximately, as follows:

Description.	Iron.	Steel.
	£ s. d.	£ s. d.
Vessels of 1,000 to 1,500 tons, per registered ton	11 0 0	10 7 6
Vessels of 1,500 to 2,000 tons, per registered ton	9 0 0	9 7 6

The cost of steamers varies according to the finish and style. In vessels intended for cargo purposes only prices range from £7 to £10 per ton of dead-weight carrying capacity, including engines and boilers.

[From David & William Henderson & Co., ship-builders, Partick, near Glasgow.]

The works of this firm are capable of producing 25,000 tons annually. The cost of steel sailing ships ranges from £9 to £10 5s. per ton, according to specification, and the cost of steel steamers ranges from £10 to £17 per ton, including machinery, according to speed, passenger accommodation, and style of finish.

[From Aitken & Mansel, ship-builders, Whiteinch, near Glasgow.]

The yard of this firm in a recent year produced tonnage (iron and steel) to the extent of 16,890 tons with machine-power (horse-power indicated, 13,720). The firm could undertake the construction of vessels, either composite iron, or steel, of all dimensions and descriptions up to 5,000 tons.

The rate per ton for a cargo steamer of about 2,000 tons, either iron or steel, would be about £14 per register ton, with modern improvements in machinery, the rate being rather higher for vessels of smaller dimensions.

[From A. & J. Inglis, ship-builders, Glasgow.]

This firm is able to build and turn out complete, with machinery and ready for sea, 20,000 tons of shipping per annum. They state that the cost varies considerably, according to the trade intended and the style of fittings.

[From the London and Glasgow Engineering and Iron-Shipbuilding Company, limited, Glasgow.]

The works of this company are at Govan, on the south side of the Clyde, near Glasgow, and can accommodate on the stocks at one time 20,000 to 21,000 tons, ranging from 6,000 tons downwards. Their engine works are sufficient for the construction of the machinery required for vessels of the amount of tonnage named. The prices of vessels vary according to their character, but passenger steamers constructed of steel may be taken at, say, £28 per ton, and ordinary cargo steamers at, say, £12 10s. per ton.

[From Robert Duncan & Co., ship-builders, Port Glasgow.]

The capacity of this firm's yard is equal to the production of 20,000 tons of shipping per annum. The present average cost of sailing ships, iron or steel, is about £9 10s. per ton, gross register, and of purely cargo steamers about £12 per ton, gross register. The cost of passenger steamers cannot be stated at an average rate per ton.

[From Russell & Co., ship-builders, Port Glasgow.]

Russell & Co., ship-builders, Port Glasgow, have three yards in Greenock and Port Glasgow, capable of building any size of vessel up to 1,000 feet long. Last year their output was 40,866 tons, which could be doubled under present conditions. Iron or steel sailing ships can be built for £5 15s. per ton dead weight carried from 2,000 tons dead weight and upwards, and about £6 5s. per ton dead weight carried from 2,000 tons downward to, say, 1,400 tons. Ships of 1,000 tons net register carry 1,600 dead weight, and 2,000 net register 3,200 dead weight. Iron or steel steamers with all the latest improvements can be built for about £6 15s. per ton dead weight carried when carrying 3,000 dead weight, and proportionately dearer when smaller.

[From Murdoch & Murray, ship-builders, Port Glasgow.]

This firm can turn out 8,000 tons of shipping annually. An iron cargo steamer, say 1,500 tons, will cost £9 10s. per ton dead weight, including engines. An iron screw steamer to carry 2,600 tons would cost £8 per ton dead weight, engines included. Steel vessels cost very little more than iron. Steamers vary very much, owing to the passenger accommodation and the engine-power being made to suit the different requirements.

[From Archibald McMillan & Son, ship-builders, Dumbarton.]

Archibald McMillan & Son have two yards capable of producing 40,000 tons of steel or iron tonnage per annum.

The present average cost of steel sailing ships is £10 5s per ton net register, and that of steamers, including machinery, about £17 per ton, gross register. The difference in cost between iron and steel steamers does not exceed 10s. per ton.

[From Napier, Shanks & Bell, ship-builders, Yoker, near Glasgow.]

Napier, Shanks & Bell, with their present appliances, could construct about 15,000 tons of ordinary merchant vessels per annum. The cost of vessels varies greatly, depending upon class of vessel, accommodation, speed, and current cost of materials. The subjoined rates (per ton, gross register) may be taken as an approximate:

STEEL SCREW STEAMERS.

Gross tonnage.	Speed in knots.	Price per ton.
		£ s. d.
4,400	11½	13 10 0
3,450	11	14 0 0
2,100	9½	11 15 0
1,950	10	12 10 0
1,290	9	13 0 0
1,250	13½	18 0 0

SAILING VESSELS.

1,060	Steel hull	10 8 0
1,680	Iron hull	9 10 0

Lobnitz & Co., ship-builders and engineers, Renfrew, have works capable of producing 20,000 tons of shipping annually, and corresponding machine-power. The cost of steam vessels may be reckoned at £10 per gross ton for the hull, and £9 per horse-power for the machinery.

[From S. McKnight & Co., ship-builders, Ayr.]

S. McKnight & Co. have a yard adapted for constructing iron or steel vessels up to 4,000 tons, gross register, and capable of producing upwards of 12,000 tons annually. Steamers of iron cost from £14 to £24 per ton, gross register, and sailing vessels of iron from £9 to £14 per ton, gross register.

[From the Ailsa Ship-building Company, Troon, Ayrshire.]

The Ailsa Ship-building Company could build iron sailing vessels at about £10 per ton, gross register, and steamers of the cargo type, including machinery, at about £12 per ton. Steel vessels of either class would cost about 5s per ton more than the iron ships.

Caird & Co., ship-builders, Greenock, state that the capacity of their yard is equal to an output of 30,000 tons per annum. As to prices, they say that, as the character of the work done by them is so varied, an average cost per ton would be misleading.

The following ship-building firms were written to, but did not respond, and the firm of Robert Napier & Sons, one of the largest in this district, refused to give any information: Robert Napier & Sons; Androssan Ship-building Company; Charles Connell & Co.; W. B. Thomson; Scott & Co., Greenock; J. Reid & Co.; H. Murray & Co.; Blackwood & Gordon; Campbeltown Ship-building Company; David J. Dunlop & Co.

From a report on ship-building, which appeared in the Glasgow Herald of 19th December, 1885, it appears that for the year 1885 Robert Napier & Sons produced 5,061 tons, being 4,000 tons less than the previous year and only a fourth of the output in 1883. Not since 1878 had the output of this firm been so low.

Return of the number and tonnage of sailing and steam vessels at the port of Glasgow, December 31, 1885.

Capacity.	Sailing vessels.		Steam vessels.	
	No.	Tons.	No.	Tons.
Of and under 50 tons	119	3,723	190	5,381
Over 50 tons	493	467,138	651	593,263
Total	612	470,861	841	598,644

Total number registered, 1,453 vessels; total registered tonnage, 1,069,505.

Return of the number and tonnage of sailing and steam vessels at the port of Greenock, December 31, 1885.

Capacity.	Sailing vessels.		Steam vessels.	
	No.	Tons.	No.	Tons.
Of and under 50 tons	92	3,030	46	994
Over 50 tons	186	156,783	50	73,701
Total	278	159,813	96	74,695

Total number registered, 374 vessels; total registered tonnage, 234,508.

Return of the number and tonnage of vessels at the port of Ayr, November 29, 1886.

Description.	Sailing.		Steam.	
	No.	Tons.	No.	Tons.
Wooden vessels	30	5,275	3	202
Iron or steel vessels	9	7,169	3	324

Total number registered, 45 vessels; total registered tonnage, 12,970.

Return of steam and sailing vessels at the port of Campbeltown, November 18, 1886.

Description.	No.	Tons.
Sailing vessels, wood	32	1,775
Steam vessels, iron or steel	5	510

Total number registered, 37 vessels; total registered tonnage, 2,285.

Return of vessels registered at the port of Dumfries, November 20, 1886.

Number of sailing vessels (wood), 27; total registered tonnage, 2,991.

Tonnage registered December 31, 1884, *in the following ports.*

Ports.	Sailing vessels.		Steamers.	
	No.	Tons.	No.	Tons.
Glasgow	16	9,619	19	3,402
Troon	8	1,673	2	159
Ardrossan	96	10,425	10	3,599
Irvine	9	2,497	1	8

Totals in the district: 1,117 sailing vessels, having 672,098 tonnage, and 980 steam vessels, having 681,544 tonnage.

Wages of British and foreign seamen respectively, engaged to serve in British ships of certain ports during the month of February, 1886.*

STEAMSHIPS.

Ports.	Highest wages.			Lowest wages.		
	British subjects.	Foreign subjects.	Trade.	British subjects.	Foreign subjects.	Trade.
Bristol.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Petty officers	6 0 0	.....	All trades alike.	5 0 0	.....	All trades alike.
Able seamen	6 15 0	6 0 0		3 0 0	4 0 0	
Firemen	3 15 0	3 15 0		3 15 0	3 15 0	
Coal trimmers	2 15 0	2 15 0		2 15 0	2 15 0	
Cardiff.						
Petty officers	6 15 0	6 0 0	Indian.	3 0 0	4 0 0	Mediterranean and Baltic.
Able seamen	3 10 0	3 10 0		3 0 0	4 0 0	
Ordinary seamen	2 10 0	2 10 0		1 10 0	2 5 0	
Firemen	3 15 0	3 15 0		3 10 0	3 10 0	

Wages of British and foreign seamen—Continued.

STEAMSHIPS—Continued.

Ports.	Highest wages.			Lowest wages.		
	British subjects.	Foreign subjects.	Trade.	British subjects.	Foreign subjects.	Trade.
Glasgow.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Petty officers	6 0 0	4 15 0	North American.	3 10 0	3 10 0	Buenos Ayres.
Able seamen	3 10 0	3 10 0		3 0 0	3 0 0	
Ordinary seamen	3 0 0	.....		1 5 0	.....	
Firemen	3 15 0	3 10 0		3 0 0	3 10 0	
Coal trimmers	3 10 0	.....		2 0 0	.....	
Hartlepool.						
Petty officers:						
Boatswain	4 10 0	†0 4 4	Mediterranean.	4 10 0	.....	Mediterranean.
Donkeyman	4 15 0	.....		4 5 0	.....	
Able seamen	3 15 0	3 15 0		.....	.....	
Firemen	4 0 0	4 0 0		.....	.....	
Hull.						
Petty officers:						
Boatswain	4 15 0	4 15 0	All trades alike.	3 15 0	3 15 0	All trades alike.
Carpenter	6 0 0	6 0 0		5 0 0	5 0 0	
Cook	5 10 0	5 10 0		4 0 0	4 0 0	
Steward	6 10 0	6 10 0		4 0 0	4 0 0	
London.						
St. K. D.:						
Petty officers	9 0 0	6 10 0	North American.	4 0 0	4 0 0	Colonial and Indian.
Able seamen	3 15 0	3 10 0		3 0 0	3 10 0	
Ordinary seamen	2 10 0	.....		1 0 0	.....	
Firemen	4 5 0	4 0 0		3 10 0	3 10 0	
Coal trimmers	3 10 0	.....		3 10 0	.....	
Poplar:						
Carpenter	7 10 0	6 0 0	North American and East Indian.	5 10 0	5 5 0	Mediterranean.
Boatswain	6 10 0	5 0 0		4 0 0	4 0 0	
Quartermaster	4 0 0	3 15 0		3 15 0	3 10 0	
Middlesbrough.						
Petty officers	6 10 0	6 0 0	North American and East Indian.	4 5 0	3 15 0	Mediterranean and Baltic.
Able seamen	3 15 0	3 15 0		3 10 0	3 10 0	
Ordinary seamen	2 10 0	.....		1 10 0	.....	
Firemen	3 15 0	4 0 0		3 15 0	4 0 0	
Newport.						
Petty officers	6 10 0	6 0 0	All trades alike.	4 0 0	4 0 0	All trades alike.
Able seamen	3 15 0	3 15 0		3 10 0	3 10 0	
Firemen	3 17 6	3 17 6		3 15 0	3 15 0	
Coal trimmers	3 10 10	3 10 10		3 10 0	3 10 0	
North Shields.						
Petty officers	5 0 0	4 10 0	America and East Indies.	4 0 0	4 0 0	Mediterranean.
Able seamen	3 10 0	3 10 0		3 10 0	3 10 0	
Ordinary seamen	3 5 0	3 5 0		2 5 0	2 5 0	
Firemen	3 15 0	3 15 0		3 15 0	3 15 0	
South Shields.						
Petty officers:						
Steward	6 0 0	6 0 0	All trades alike.	5 0 0	5 0 0	All trades alike.
Cook	5 0 0	5 0 0		4 5 0	4 5 0	
Donkeyman	4 10 0	4 10 0		4 0 0	4 0 0	
Boatswain	5 0 0	5 0 0		4 0 0	4 0 0	
Able seamen	3 10 0	3 10 0		3 10 0	3 10 0	
Ordinary seamen	2 10 0	2 10 0		2 5 0	2 5 0	
Firemen	3 15 0	3 15 0		3 15 0	3 15 0	
Swansea.						
Petty officers	5 15 0	5 15 0	Western Ocean.	3 15 0	3 15 0	Mediterranean.
Able seamen	3 10 0	3 10 0		3 10 0	3 10 0	
Firemen	4 5 0	4 5 0		3 15 0	3 15 0	
Coal trimmers	3 5 0	3 5 0		3 5 0	3 5 0	

* From Parliamentary Report [C.—4709].

† Per day.

Wages of British and foreign seamen—Continued.

SAILING SHIPS.

Ports.	Highest wages.			Lowest wages.		
	British subjects.	Foreign subjects.	Trade.	British subjects.	Foreign subjects.	Trade.
Bristol.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Petty officers	5 5 0	.....	West Indies.	3 10 0	.....	African coast.
Able seamen	3 0 0	3 0 0		2 10 0	2 10 0	
Ordinary seamen	2 5 0	.....		1 5 0	.....	
Cardiff.						
Petty officers:						
Acting second mate	6 10 0	5 10 0	All trades alike.	2 10 0	2 15 0	All trades alike.
Able seamen	3 0 0	3 0 0		2 10 0	2 10 0	
Ordinary seamen	2 10 0	1 15 0		1 7 6	1 15 0	
Glasgow.						
Petty officers:						
Boatswain	5 0 0	5 0 0	North American.	3 0 0	3 10 0	Colonies.
Able seamen	3 0 0	3 0 0		2 15 0	2 5 0	
Ordinary seamen	2 10 0	2 10 0		1 5 0	1 13 0	
Greenock.						
Petty officers	5 10 0	5 0 0	West Indies.	3 5 0	3 5 0	East Indian.
Able seamen	2 15 0	2 15 0		2 10 0	2 12 6	
Ordinary seamen	2 0 0	.....		1 0 0	.....	
Hull.						
Petty officers:						
Cook	4 5 0	4 5 0	Mediterranean.	4 5 0	4 5 0	
Steward	5 10 0	5 10 0		5 10 0	5 10 0	
Carpenter	6 10 0	6 10 0		6 10 0	6 10 0	
London.						
St. K. D.:						
Petty officers	6 0 0	8 6 8	North American.	2 0 0	3 15 0	Colonies.
Able seamen	4 3 4	2 15 0		2 15 0	2 15 0	
Ordinary seamen	2 0 0	2 5 0		1 0 0	2 5 0	
Poplar:						
Carpenter	6 10 0	6 0 0	North American and East Indian.	4 0 0	5 0 0	Mediterranean.
Boatswain	5 0 0	4 0 0		3 5 0	3 15 0	
Sailmaker	5 0 0	4 15 0		3 5 0	3 5 0	
Middlesbrough.						
Petty officers	5 7 6	5 0 0	Western Ocean.	3 10 0	5 0 0	South American.
Able seamen	3 0 0	3 0 0		3 0 0	2 15 0	
Ordinary seamen	2 15 0	2 15 0		1 0 0	2 15 0	
Newport.						
Petty officers	5 0 0	4 15 0	All trades alike.	3 0 0	3 0 0	All trades alike.
Able seamen	3 0 0	3 0 0		2 15 0	2 15 0	
Ordinary seamen	2 5 0	2 5 0		1 10 0	1 10 0	
North Shields.						
Petty officers	4 10 0	3 5 0	North American.	4 10 0	3 5 0	East Indies.
Able seamen	3 0 0	3 0 0		2 15 0	2 10 0	
Ordinary seamen	2 0 0	2 0 0		2 0 0	1 0 0	
South Shields.						
Petty officers:						
Steward	5 5 0	5 5 0	Mediterranean.	4 0 0	3 5 0	West coast of America.
Cooks and boatswains	4 0 0	4 0 0		4 0 0	3 5 0	
Able seamen	3 0 0	3 0 0		2 15 0	2 15 0	
Ordinary seamen	2 5 0	2 5 0		1 10 0	1 10 0	
Swansea.						
Petty officers	4 10 0	4 10 0	European.	3 5 0	3 5 0	Southern.
Able seamen	3 0 0	3 0 0		2 12 6	2 12 6	
Ordinary seamen	2 5 0	2 5 0		1 0 0	1 0 0	

SUMMARY OF REPLIES OF SUPERINTENDENTS OF MERCANTILE MARINE OFFICES TO INQUIRIES ON THE SUBJECT OF CRIMPING AND SEAMEN'S WAGES.

Has crimping been grappled with wholly or partially in his port?

Aberdeen: No crimping at this port. *Belfast:* Crimping has almost disappeared. *Bristol:* Has been grappled with as far as it can be. *Bristol (Avonmouth):* Only partially. *Cardiff (including Penarth):* Crimping has been wholly grappled with. *Cork:* Only partially. *Dublin:* Only partially. *Dundee:* Wholly grappled with. No systematic crimping, only dock prowlers, loafers, &c. *Glasgow:* Wholly grappled with. Constant watchfulness is still kept up. *Greenock:* Only partially. *Greenock (Gourock):* Fairly grappled with. *Grimsby:* Wholly grappled with. Has been thoroughly suppressed. *Hartlepool, West:* Almost wholly grappled with. *Hull:* Only partially. *Leith:* Little or no crimping at Leith. Boarding masters, who used to make a living there, have left. (Principally due to bad trade, opening of new sailors' home, transmission scheme, and section 5 of 1880 act. *Liverpool:* Partially grappled with. *London (Tower Hill):* Crimping does not prevail to any extent. *London (Poplar):* Only partially. *London (Victoria Docks):* Does not exist in his neighborhood. *London (Gravesend):* Partially. *Middlesbrough:* Has been grappled with almost wholly. *Newcastle:* Does not exist in his port. At the mouth of the harbor it has been grappled with, but is not wholly extinct. *Newport, Mon.:* Has been grappled with successfully, but constant watchfulness is still necessary. *Plymouth:* Partially. *North Shields:* Partially. *South Shields:* Partially. *Southampton:* Crimping does not exist at Southampton. *Sunderland:* Wholly. Crimping nearly extinguished. *Swansea:* Has been successfully grappled with.

If only partially, in what respects does it exist in his port in regard to seamen of (a) homeward-bound foreign-going ships, (b) outward-bound foreign-going ships, (c) home-trade voyages, (d) coasting voyages?

Belfast: There are occasionally cases of seamen being induced to desert, and then secreted in boarding houses till their ships have sailed. Extremely difficult to bring this home. *Bristol:* (*a*) Does not exist. *Bristol (Avonmouth):* (*a*) Very little crimping; (*b*) no trouble at Avonmouth, Sharpness, or Portishead; (*c* and *d*) no coasting work done. *Cardiff (including Penarth):* The only form of crimping at all prevalent is the supplying of crews; is reduced to a minimum in other respects. *Cork:* (*a*) Crimps wait arrival of vessels at quay and lead them astray; (*b*) getting men to desert after joining and putting them on board another ship ready for sea; (*c* and *d*) getting men to give forty-eight hours' notice, so as to ship them in foreign-going vessels if men are scarce. *Dublin:* (*a*) Crimps boarding them on arrival. *Greenock:* (*a*) Almost a thing of the past as regards these vessels. The "Gadily" has put a stop to it; (*b*) sometimes substitutes are supplied by crimps, and there is some trafficking in seamen's certificates of discharge; (*c* and *d*) not interfered with. *Greenock (Gourock):* (*a*) Still occasionally boarded by boarding masters after the ships have docked; (*b*) illegal supply to a certain extent; (*c*) not much crimping; (*d*) no crimping, mostly local crews. *Hartlepool, West:* (*a*) Soliciting to lodge with a view to extortion; (*b*) obtaining advance notes in excess of debt, inducing men to bank allotment money with them, and retaining it. *Hull:* (*a*) Seamen are watched as they leave their vessels, if board's officers are out of the way, and are enticed away by crimps; (*b*) nil; (*c*) nil; (*d*) men are supplied by boarding masters, but it can seldom be brought home to them. *Liverpool:* (*a*) Boarding and enticing seamen to lodge in doubtful houses; but not much of this now goes on; (*b*) occasionally a seamen, shipped without advance, prevented by crimp or boarding master from joining, and shipped with advance; (*c* and *d*) not aware of crimping in these voyages. *London (Tower Hill):* (*b*) Occasionally the crews of these vessels are obtained through boarding masters; has no knowledge with respect to the other vessels mentioned. *London (Poplar):* (*a*) To a very small extent; (*b*) to some extent; (*c*) very little crimping; (*d*) to a small extent. *London (Gravesend):* (*a*) Does not exist; (*b*) providing crews, especially for Nova Scotian ships; (*c*) not aware that it exists; (*d*) supplying seamen at 2*s.* per head; 1*s.* paid by master and 1*s.* by seamen. *Middlesbrough:* (*a*) Little or no crimping; (*b*) illegal supply; (*c* and *d*) no crimping. *Newcastle:* Only exists in inducing foreigners to desert foreign ships in order to get engagements in British ships (foreign going and coasting) at a higher rate of wages. *Newport, Mon.:* (*a*) Only to a limited extent; (*b*, *c*, and *d*) does not exist. *Plymouth:* (*a*) Not known to exist; (*b*) master sometimes has an understanding with a boarding master to engage seamen sent by him; (*c* and *d*) men called "coasting shipping masters" frequently employed to provide seamen for these vessels. *North Shields:* (*a*) Vessels boarded and seamen induced to go to boarding houses; (*b*) seamen engaged at boarding houses and taken on board by the boarding-house keeper, who supplies an outfit; (*c* and *d*) practically

does not exist. *South Shields:* (*a*) Crimps going on board; (*b*, *c*, and *d*) supplying of seamen. *Southampton:* Does not exist in the case of any of the vessels named. *Sunderland:* Of a very mild character; chiefly confined to coasting vessels. *Swansea:* (*a*) A few cases of touting for boarders still occur; (*b*) no crimping; (*c* and *d*) a few cases of illegal supply may occur, and desertions may be frequent.

What form does crimping take in his port, and how is it carried on?

Belfast: There are occasionally cases of seamen being induced to desert, and then secreted in boarding houses till their ships have sailed. Extremely difficult to bring this home. *Bristol:* Practically does not exist. *Bristol* (*Avonmouth*): Principally boarding-house keepers inducing or endeavoring to induce masters to take men from their houses. *Cardiff* (*including Penarth*): Supplying crews, and inducing crews, mostly from Canadian ships, to desert; but this is not done to any extent, the percentage of desertion being only 2 per cent. *Dublin:* Boarding homeward-bound foreign-going ships, the boarding master and the tradesman working together to empty the seaman's pockets. *Greenock:* Masters now and then employ persons to obtain men for them; and substitutes are illegally supplied. Crimps congregate round the office, &c. *Hull:* Crimps employ runners to bring seamen to their homes. *Liverpool:* Enticing men to desert, reshipping them at a profit, illegal supplying, inducing men not to join, and substituting worthless men. *London* (*Tower Hill*): Mostly illegal supply to British American vessels. *London* (*Poplar*): Crimps supplying seamen to masters. *London* (*Gravesend*): Principally in providing seamen for outward bounders, though not to any great extent; and occasionally in crimps taking crews across to Dunkirk, &c., for British ships. *Middlesbrough:* Inducing to desert, harboring deserters, and illegal supply. *Newport, Mon.:* Inducing seamen to desert; illegal supplying by boarding masters. *South Shields:* Supplying of seamen, masters and crimps having a common understanding. *Swansea:* Foreign seamen are decoyed from their own foreign ships to foreign boarding houses.

Can the superintendent suggest any further steps to grapple with the evil?

Belfast: Make seamen's licensed lodging house section compulsory, local marine board to be licensing authority, and board's officers to have power to enter and search for deserters. *Bristol:* No. *Bristol* (*Avonmouth*): Masters to select their crews at mercantile marine office and nowhere else; compulsory handing of wages accounts to boarding officers. *Cardiff* (*including Penarth*): (1) Would suggest that shipmasters with existing agreements (from London, Liverpool, Antwerp, &c.) should deposit articles at mercantile marine office, within a reasonable time, in order to get correct returns of desertion; (2) false entries of desertions in Eng. 1, and return under section 158 (Eng. 2) should be made penal. Board should prosecute masters for not giving seaman a discharge certificate; (3) penalty under section 148 should be increased from £5 to £20 and the section should cover money taken indirectly or through an advance note; (4) words "induces by *any means whatever*" should be added to section 157; (5) it should be made penal to give false birthplace, as well as false name, &c. (section 255), and aiders and abettors should be equally punished. *Cork:* By appointment of out-door officer to look after incoming ships; transmission scheme to be extended to Cork in full; appointment of superintendents as marine magistrates, limiting their powers to certain sections; licensing and inspection of seamen's boarding houses by or through the board of trade. *Dublin:* Appointment of a proper out-door staff at this port. *Greenock:* Would have everybody and everything connected with the seaman licensed, boarding masters, outfitters, &c., and also persons supplying seamen. *Greenock* (*Gourock*): Superintendents should be able to take proceedings at once; unauthorized persons going on board before the seamen have actually left should be liable to the penalty (Sec. 5 of 1880 act). A small shelter might be provided where messages could be sent for substitutes required by ships coming from Glasgow; continuous discharge certificates might be issued. *Grimsby:* Prosecute the masters, without whose connivance crimping is impossible. *Hartlepool, West:* Compulsory licensing of boarding houses by local authorities. *Hull:* Dock company might prohibit men loitering about the quays. *Leith:* It should be made compulsory for boarding masters to give up a seaman's effects, even if they have a lien on his future wages. *Liverpool:* Masters might be discouraged from getting their crews elsewhere than at mercantile marine offices. *London* (*Tower Hill*): An officer might be specially appointed to detect offenses. *London* (*Poplar*): This form is not easy to grapple with, as the vessel would have to be watched so long; master might be called on to sign a declaration that none of his crew have been engaged through an unlicensed person. *London* (*Gravesend*): Master to make a declaration that he has not employed any unlicensed person, &c., to obtain his crew. *Middlesbrough:* No; the law is sufficiently strong. *Newcastle:* None, beyond prosecuting offender under section 147

Newport, Mon.: Amend section 5 of 1880 act by striking out the words "at the end of her voyage," so as to make it apply to every ship, whether during the progress or at the end of her voyage. Amend subsection (*a*) by making it penal to induce a seaman, even temporarily, to leave his vessel without permission. Amend section 257 of 1854 act by adding such words as "suggests or encourage" to attempts to persuade, and by striking out the word "wilfully" before the word "harbors." Make section 147 (1) more comprehensive, say, by such words as "introduces to any master either directly or indirectly." *Plymouth:* No; very difficult to obtain evidence to secure a conviction. *North Shields:* Superintendents should be able to prosecute at once when a case of real crimping comes to light. *South Shields:* Superintendent to have power to prosecute at once. *Sunderland:* Mercantile marine offices should afford every facility for obtaining men. *Swansea:* Home-trade and coasting vessels should be compelled to engage and discharge their crews at a mercantile marine office; no foreigner should be allowed to ship unless he has a valid discharge from his last ship, or a permit to do so from his consul.

Do men to any appreciable extent go without advances?

Aberdeen: Yes, in steamers under running agreements in short voyages. *Belfast:* No. *Bristol:* No. *Bristol (Avonmouth):* No. *Cardiff (including Penarth):* For the past two months 60 per cent. of men engaged have taken no advances. *Cork:* No. *Dublin:* No. *Glasgow:* No. *Greenock:* No. *Greenock (Gourick):* No. *Grimsby:* No. *Hartlepool, West:* No. *Hull:* Scarcely any. *Leith:* No; very few. *Liverpool:* Advances are the rule. *London (Tower Hill):* No. *London (Poplar):* No. *London (Victoria Docks):* In short voyages men go without advances, but in no others. *London (Gravesend):* Yes; some of the lines who ship at Katherine Docks give no advances. *Middlesbrough:* No. *Newcastle:* No. *Newport, Mon.:* No. *Plymouth:* No. *North Shields:* Yes; about 70 per cent. *South Shields:* About 20 per cent. *Southampton:* No advances given by the companies sailing from Southampton (only two cases within a considerable time). *Sunderland:* No. *Swansea:* No.

If not, is the advance made in cash, or by some evasion or modification of the advance or allotment note, or by bonus note, or some such document, or how?

Aberdeen: Not in cash. By modification of advance and allotment notes; seldom by bonus notes. *Belfast:* Seldom in cash, By modification of allotment note, by bonus note, and by the old conditional advance note. *Bristol:* Cash rarely given. By gratuity note, the men signing for 1*s.* the first month. *Bristol (Avonmouth):* By altered allotment notes and by bonus notes. *Cardiff (including Penarth):* By a "demand note," payable at sight and unconditional. *Cork:* Seldom in cash. Men sign a note at the broker's for a certain sum supposed to have been expended on clothes, &c. The seaman negotiates this, and it is paid by the agent three days after the ship sails—a form of the old advance note. *Dublin:* By modification of allotment note and by bonus note. *Dundee:* By bonus note. *Glasgow:* Not in cash. By advance note, by altered allotment note, and by bonus note, &c. *Greenock:* Not in cash. Usually by bonus note. *Greenock (Gourock):* In the American liners by cash. In other ships by modification of advance or bonus note. *Grimsby:* Never in cash. By "half-pay" allotment note, and bonus note. *Hartlepool,:* By altered allotment note. *Hull:* For sailing ships, altered allotment notes. For steamers, promissory notes payable three days after date. *Leith:* By bonus note made payable after the ship sails, and by allotment notes for one payment payable 15 days after date. *Liverpool:* Not in cash. Mainly by some evasion or modification of advance or allotment notes. By bonus note and by signing for 1*s.* the first month. *London (Tower Hill):* Not in cash. By altered allotment note and by bonus note, the men signing for 1*s.* the first month. *London (Victoria Docks):* Sometimes by bonus note, and by altered allotment notes, which have entirely taken the place of the old advance notes. Occasionally bills of exchange are drawn upon owners for one month's pay. *London (Gravesend):* Very rarely in cash. By altered allotment note, and by bonus note, 1*s.* the first month. *Middlesbrough:* Very rarely in cash. By a form of bonus or advance note. *Newcastle:* Advance seldom made in cash, Done by evasion of advance note and modification of allotment note. Bonus note not used. Note is given payable three days after sailing. Seamen signing for the amount as cash, and allotment notes are made out for 15 days' wages at 15 days' date. *Newport, Mon.:* Not in cash. By unconditional advance note (form sent) produced by the boarding master at the pier-head on the vessel sailing. *Plymouth:* Sometimes by cash, seamen's clothes being given as security. By advance notes, by altered allotment notes, and occasionally by bonus note. *North Shields:* Cash never advanced. By modification of allotment note. Few cases by bonus note. *South Shields:* By evasion and modification of advance and allotment note, or bonus note. *Sunderland:* Seldom

given in cash. By altered allotment notes and by bonus note. By the old form of advance note occasionally, the men giving a receipt in case of loss of ship and crew. *Swansea:* Seldom given in cash. By the altered allotment notes.

Does advance always appear on face of agreement, or is it occasionally made outside the agreement, and if so, is it accompanied with lower rate of wages and for how long?

Aberdeen: Mostly outside the agreement and not accompanied by lower rate of wages. *Belfast:* Outside the agreement, except in case of cash and altered allotment note. Have known higher wages offered to seamen to sign without advance, but this was refused. In case of old advance note men sign for 1*s.* for the first month. *Bristol:* Outside the agreement. *Bristol (Avonmouth):* Outside the agreement. Cannot say as to difference in wages. *Cardiff (including Penarth):* Always appears on agreement. *Cork:* Outside the agreement. Occasionally men sign for 1*s.* the first month. *Dublin:* Appears on agreement. In case of North American ships, is accompanied by a lower rate of wages for the voyage. *Dundee:* Outside the agreement, the seamen signing for 1*s.* for first month. *Glasgow:* Outside the agreement. Usually a lower rate of wages for the first month. *Greenock:* Outside the agreement. The men are usually shipped at 1*s.* the first month. *Greenock (Gourock):* Outside the agreement. Sometimes accompanied by a reduction of wages for the first month. *Grimsby:* Outside the agreement in case of bonus note; seamen sign for 1*s.* for first month. *Hartlepool, West:* Yes; entered in the agreement as allotments. *Hull:* Outside agreement, except in the very rare case of cash advances. No less wages accepted. *Leith:* Advances are inserted in Eng. 1 in Col. "Advances agreed to." Occasionally men sign for 1*s.* a month, and receive a month's advance. *Liverpool:* Made outside the agreement, and is accompanied by a lower rate of wages for the time for which the advance is given. *London (Tower Hill):* Yes; in the case of altered allotment notes. Advances do not affect the rate of wages for which the men sign. *London (Poplar):* Not as advances. In case of allotment note it appears as an allotment for certain payments. *London (Victoria Docks):* In case of bonus notes the advances do not appear in agreement. Sometimes 1*s.* a month is entered for the first month. *London (Gravesend):* Outside the agreement in case of bonus note. Yes; 1*s.* for first month signed for. *Middlesbrough:* Outside the agreement. Yes. The seamen sign for 1*s.* the first month. *Newcastle:* Outside the agreement. It does not affect the rate of wages. *Newport, Mon.:* Nearly always. Occasionally men are shipped at 1*s.* for the first month. *Plymouth:* Outside agreement, except when by allotment note. Rate of wages not affected. *North Shields:* When by bonus note, outside agreement, men signing for 1*s.* a month. *South Shields:* Ovtside the agreement, except when given as allotment note. In case of bonus notes seamen sign for 1*s.* for first month. *Sunderland:* Outside the agreement. In case of bonus note, the men sign for merely nominal wages. *Swansea:* Outside the agreement, the seamen signing for 1*s.* a month for first month.

What would be result of so strengthening the law as to prohibit granting of advance note in any shape or form, leaving cash advance optional, and howcould it be done?

Aberdeen: Seamen would not go to sea. In many cases could not. Seamen taking cash advances and not joining should be liable to imprisonment. No prohibitory law would work without this. *Belfast:* Ship-owners would not get men to join. (Notes are unknown in Norway. Advances made in cash where continuous discharges are issued, and seamen punished by imprisonment for not joining.) *Bristol:* Would cause great detention. Masters would not get British seamen. Cash advances unreasonable. *Bristol (Avonmouth):* Advances cannot be completely prohibited. *Cardiff (including Penarth):* Prohibition of other than cash advances would be a premium on desertion and crimping. *Cork:* Would be beneficial to the seamen. Superintendent should be empowered to receive advance in cash, and to pay it away on seaman's behalf if he went with the ship, or to give it back to the owner if the seaman did not join. *Dublin:* Would work badly, cause masters great inconvenience, and keep seamen out of employment. Cash advances are impracticable. *Dundee:* Does not approve of prohibition. *Glasgow:* Undesirable and impracticable. Cash advances out of the question. *Greenock:* the law would be evaded as it is now. *Greenock (Gourock):* There would still be evasions of the law. *Grimsby:* Would be tyrannical and impolitic law, and would inflict much injury on British shipping. Steady men on weekly wages would be driven out of employment. No sane ship-master would give cash advances, the 1880 act allowing a man to join his ship or stay away as he likes. *Hartlepool, West:* Would reduce the power of the crimp. Could be done by making it penal to give advance notes, and by limiting issue of allotment notes to prove relations, &c., and requiring them to be for the whole voyage. *Hull:* Could not be carried out. Seamen must have advances. *Leith:* Would be a great hardship to sea-

men, who would find some way of obtaining advances through allotment notes, and paying high discount to get them cashed. *Liverpool:* Any strengthening of the prohibitory law would be a greater injury to the seaman. *London (Tower Hill):* Not called for. *London (Poplar):* Would not work. Seamen would strike. *London (Victoria Docks):* Some sort of advance notes will always be given. No sane person would give cash advances while the law provides no penalty for not joining. *London (Gravesend):* Seamen would not be able to ship. Would probably cause a strike. Cash advances not practicable. *Middlesbrough:* Would be impracticable. Masters will not advance cash while they cannot be sure of the men joining. Men must have advances. *Newcastle:* Any such legislation would be evaded, and would do more harm than good. The seaman would suffer by having to pay more to get cash for his note. *Newport, Mon.:* Some means would be found of evading such a law. *Plymouth:* Would make things worse; and law would still be evaded as it is at present. *North Shields:* Could not possibly be enforced. *South Shields:* Impracticable. *Southampton:* By making the evasion illegal and by strictly prohibiting same. *Sunderland:* Would do no good. Seamen would get advance in some shape or another. Advances in cash not likely to be made. *Swansea:* The most stringent law would be evaded.

What would be result of making a month's advance note legal and prohibiting other advances, with heavy penalties for not making advances clear on face of agreements, and limiting allotment notes to relatives, guardians, and savings banks?

Aberdeen: Would be a decided improvement. *Belfast:* Would be desirable to legalize advance notes, but not to prohibit other advances, nor to restrict issue of allotment notes to relatives, &c. Seaman should have the right to leave half his wages to whom he likes. *Bristol:* The sooner the advance note is made legal the better. Advance should be shown on agreement, and allotment notes limited as suggested. *Bristol (Avonmouth):* Approves of suggestion. Note should be entered in agreement, and everything else disallowed. There should be penalties and punishments for not joining. *Cardiff (including Penarth):* Would legalize advance notes under certain conditions, but would not restrict them to one month's wages. Would limit allotment notes to relatives. Superintendent should have power to proceed for sums so allotted when notes are repudiated for insufficient reasons. *Cork:* Would not be beneficial. If advances are given it should only be through superintendent, as suggested. *Dublin:* Would be most satisfactory. Strongly approves of this suggestion. *Dundee:* Advance notes ought to be legalized. *Glasgow:* A great advantage to both seamen and owners. Approves of the whole suggestion excepting the last three words. *Greenock:* Approves of a legalized form, but amount should be less or more than a month's wages, as might be agreed, and should always be shown in agreement. Approves of allotment notes being restricted to relatives, &c. (Superintendent suggests that the advance note should be for just for as much and no more as would pay the boarding master and outfitter, with room at the back for a statement of what the seaman had got for his money.) *Greenock (Gourock):* A small legalized advance sufficient to procure clothing, &c. would be beneficial. More would tempt the crimp to keep the men and so run up a bill. Amount should appear in the agreement, and allotment notes should be limited to relatives, &c. *Grimsby:* Would legalize advance note for half a month's wages. *Hartlepool, West:* Would be a return to the old practice in a worse degree. Entering advances in agreement would do nothing to lessen powers of the crimp. Allotment notes limited as suggested; and superintendents should have power to demand payment for poor allottees in the absence of legal excuse. *Hull:* Would be an advantage to the seamen. Allotments might be made seven days after date for the sake of their families. *Leith:* Agrees with all these proposals. *Liverpool:* Approves of proposal and would limit the allotment note to relatives, &c. *London (Tower Hill):* Approves of these suggestions. *London (Poplar):* All these suggestions should be adopted. Would be beneficial to both seamen and ship-owners. *London (Victoria Docks):* Would greatly benefit the sailor. The amounts should be stated in the articles. Allotment notes should be restricted to seaman's relatives, &c. *London (Gravesend):* Would prove a benefit to seamen and all concerned. *Middlesbrough:* Approves of all these suggestions. *Newcastle:* Sees no objection to making a month's advance legal, the amount to be entered in the agreement, but would not attach penalties to notes made in any other way. Would limit allotment notes to relations, guardians, &c. *Newport, Mon.:* Result would be beneficial. Would make advance note payable directly the seaman had joined his ship, and seaman tendering it should be liable to punishment if he willfully neglects to join. *Plymouth:* Approves of all these suggestions. *North Shields:* Advance notes should be made legal, but not limited to a month's wages. Would not limit allotment notes to relatives. Wages belong to the seaman, and he should be at liberty to give them to whoever he likes. *South Shields:* Would work very well. *Southampton:* Not wanted at his port, but is in favor of making advance for one month legal, and prohibiting all other advance notes. Would restrict allotment notes to relatives, &c. *Sunderland:* Would be an advantage alike to seamen and owners. *Swansea:* Approves of these suggestions.

Should seamen be able to give an order to a superintendent to receive from owner a part of the wages he has earned, and to place to his account in the Seamen's Savings Bank?

Aberdeen: Does not think the suggestion of much practical importance. *Belfast:* Would be desirable, might induce the seamen to save, though the superintendent's efforts in that direction have not been very successful so far. *Bristol:* Most undesirable in every way. *Bristol (Avonmouth):* No; would lead to great confusion. *Cardiff (including Penarth):* Very desirable, either for allotment or advances, but good seamen are doubtful about having allotments, because poor or cheating ship-owners get out of paying. *Cork:* Very desirable, but the difficulty would be to get seamen to do it. *Dublin:* Would be desirable. *Glasgow:* Quite unnecessary. Masters might be allowed to give seaman during the voyage an order for part of his wages, payable by the owners to relatives where no allotment note had been granted. *Greenock:* It might be to the interest of seamen, but if the money was not returned to the owner in case of desertion it would probably increase desertion. *Greenock (Gourock):* It is desirable. *Grimsby:* Certainly not; the seaman would only obtain it when he wanted to desert at a foreign or colonial port. *Hartlepool, West:* Would be desirable, but the seaman must be educated into the habit of putting by. *Hull:* No; never asked for. *Leith:* Sees no necessity for this. *Liverpool:* Should be left as it is at present. *London (Tower Hill):* Does not think it would be desirable except in cases where owner's solvency was doubted; does not see what purpose it would serve. *London (Poplar):* Is not desirable, and does not think it would work. *London (Victoria Docks):* Does not think it desirable, but suggests it should be made compulsory for masters to give seaman, if he requires it, an order, say, for one month out of every three due, which order the seaman could send home to his family. *London (Gravesend):* Not desirable, the seaman having had an opportunity of doing so when signing articles. *Middlesbrough:* Would be a good thing if owners would comply. *Newcastle:* Seamen would not give such orders. *Newport, Mon.:* Yes; but it should be forfeitable to the owner in the event of the seaman deserting abroad. *Plymouth:* Would lead to trouble without much advantage to the seaman. *North Shields:* No: men could give these orders and desert. *South Shields:* Does not think it would be taken advantage of at South Shields. *Southampton:* Can see no practical benefit from this. Seamen would not do it. *Sunderland:* Very few men would avail themselves of this, except perhaps the careful young Scandinavians. *Swansea:* Ship-owners would object to this, and seamen have not hitherto asked for it at his port.

AMERICAN AND SCOTCH BUTTER AND CHEESE.

REPORT OF CONSUL UNDERWOOD.

The Kilmarnock cheese fair is an annual exhibition with prizes, and a mart also, attended by the large dealers of the whole Kingdom. That of yesterday was the thirty-second of the series, and was by far the largest and most successful.

There were over 1,000 entries of different articles, including 507 entries of cheese as against 376 last year. The quantity of cheese actually upon the tables was 500 tons, while a very large quantity was in storehouses adjacent, representing about one-third of the cheese made in Scotland, which this year is estimated at 4,800 tons.

Besides the medals of the society, the prizes given out this year amount to about £420.

Last year Ayrshire was quite in the rear, but this year it secures the second and third prizes, while the first goes to the adjoining county of Kirkcudbright. The improvement in the quality of Ayrshire cheese is admitted by all to be due to the efforts of Mr. Drummond, who is engaged as an instructor in the art according to the methods in use in Canada. At this fair Canadian cheese of course could not be exhibited, but its excellence is shown by its price in the markets both of England and Scotland. The Scotch imitations of Cheddar cheese are worth from 59 to 61 shillings per cwt. The usual Scotch cheeses, meaning those of good quality, including the favorite "Dunlap," bring from 52

to 56 shillings. Canadian cheese in Glasgow market is quoted (October) at from 52 to 56 shillings, while in London it stands higher, namely, from 56 to 60 shillings.

AMERICAN CHEESES.

American (United States) cheese is quoted from 52 to 54 shillings. It is to be noted, however, that United States cheese is in a certain sense rated above what would be its true value; because, as it matures quickly (and spoils quickly), it comes to this country ready for consumption a little before Scotch and Canadian cheeses are at their best. It therefore fills a gap, and obtains a comparatively fair price for a short time; but it is not in demand upon the best tables after its rivals are in good condition. Upon this point the statistics of importation from the United States for the last three years are instructive.

The amount imported into Glasgow in 1884 was 259,137 boxes, equal to 7,200 tons; in 1885, 168,734 boxes, equal to 4,724 tons, and in 1886, 130,072 boxes, equal to 3,642 tons.

SIZES AND SHAPES OF CHEESES.

The cheeses at this fair were quite uniform as to shape, though differing greatly in size. The shape is that of a keg or drum, and the size about 12 or 14 inches in height and the same in diameter. The cheeses had their natural color, a dull lemon shade, and few of them showed the presence of artificial color when cut, excepting the Scotch Cheddars. The flavor of the prize cheeses was bland, though rich. The flavor, doubtless, becomes more pronounced with age. I feel confident that the cheese of the best makers in New York is in no way inferior to that which had the gold medal yesterday.

CANADIAN CHEESES.

Professor Robertson, of Guelph College, Canada (who was at the fair), says that the excellence of Canadian cheese is owing to the great pains taken by the Government to diffuse sound instruction in the art, and consequently to the intelligence, skill, and care of the dairymen. Most of the Canadian cheese that is exported is made in a climate as warm as that of the State of New York, and it has no advantage in that respect. If cheeses could be made in cool factories they would not mature so soon and so soon become strong. But no care in keeping cheese will give a good flavor to such as are made in ignorance of the true principles of the art. A large establishment, favorably located, scientifically conducted, and with refrigerated rooms for the processes, and especially for storing, might attain high results. He says there is no chance to make money by imitations of Stilton, Gorgonzola, &c., on account of the radical differences in the quality of the pasturage and in the climate. No matter what pains are taken, the flavor of these celebrated cheeses cannot be exactly imitated without having all the conditions under which they are produced.

The chief source of damage to cheeses is undue warmth, which sweats them, disintegrates them, and changes their flavor. The deterioration begins at home (in the United States), it is increased in transit by railway, and more by exposure to the sun on the sidewalks and wharves of a city; and it is further increased during the ocean voyage, especially in summer, the holds of steamships being excessively hot. Cheeses sometimes arrive here in a shocking condition, their very looks being calculated to deepen the prevailing prejudice against foreign productions. If the importation of cheese from the United States is to be

maintained or increased, some means must be found not only to make them in the best way, but to secure them from the disastrous effects of heat from the time they leave the dairy until they are landed here. It would seem that if attention were given to the matter, as is done in reference to beef, the cheese might be sent over in cool storerooms, or, at least, in a more reasonable temperature than at present.

It seems to me that the example of the Canadian Government is well worth imitating by the States of our Union. Whether it is desirable or not to bid for the British market, it is surely important to foster this important industry at home, both for the sake of the farmers and for the consumers. Cheese-making is a delicate chemical process, requiring knowledge, skill, and experience. It is not an art that one can take up without instruction. It is surely worth while for dairymen to gain the necessary knowledge, to have the best apparatus, and to give to every step of the process intelligent care. If this were done, the quality of the product would be so much improved that the consumption would be greatly increased, and the objections to its use on hygienic grounds would be greatly lessened. I give an abstract of Professor Robertson's remarks at an agricultural meeting at Ayr a few days ago, upon the subject of Government instruction.

Professor Robertson, of the Government College, said:

In Canada they had combined the two systems of instruction with great advantage. Through the factory system they disseminated information which could be utilized in individual dairies. So long as the Canadian dairymen stood apart, they made no progress, but so soon as they associated for mutual help, they took their places in the very front rank for uniformity of quality. They were willing to give the dairymen of this country all the information they possessed, and not entirely from unselfish motives; because the better the quality of the cheese made here, the better prices they would get in Canada. A bad cheese would last a long time on a gentleman's table, whereas a good cheese would be speedily consumed, and with greater consumption the price of cheese would rise. Professor Robertson then went on to refer to the conventions of dairymen held in Canada, which brought the results of experience and observation together, and these were issued in pamphlet form for the benefit of all. Though an Ayrshire man himself, he was afraid he must admit that Ayrshire farmers were too reticent. They were not much inclined to tell how they handled their milk, how much salt or rennet they used, or what price they got for their cheese. He thought this was a mistake, for anything that would tend to raise the general scale of prices would be for the benefit of all. The Canadian Government had helped them by giving grants for lectures, printing the reports of their conventions, and establishing an experimental butter station and creamery where the cream of 1,000 cows in the neighborhood was manipulated, and where everybody was open to come and see what was going on. By this means they had almost revolutionized their system of butter-making and succeeded in producing an article quite equal to the best Danish butter. They made almost as much out of the butter as paid the expenses of the college. The Government also paid the expenses of experiments in cheese-making. He saw no reason why the Government here should not do something to develop the dairy industry, or whether in a wealthy country like this there should be any lack of money to carry on improvements. There surely was no good reason why the sixteen millions that went annually to foreigners for dairy produce should not be retained for Britain and its colonial dependencies. As to butterine, he would have the Government to impose a duty of 20*s.* a cwt. on foreign butterine imported. If there was to be butterine used, it would be better that it should be made at home and sold as such. It was better that their own manufacturers should have the profit of it than foreigners. In Ontario, however, the Government had suppressed the manufacture of imitation butter by imposing a tax of 6*d.* a pound on it. Mr. Robertson concluded by referring to the importance of attending in cheese-making to preserving the natural structure of the material, on which its keeping quality greatly depended.

BUTTER.

Butter is shown in three forms—fresh, powdered, and cured. "Powdered" butter is slightly salted, and "cured" butter is salted enough to keep through the season. It appears to me impossible for United

States dealers to send *good* butter here and realize any adequate price for it. The prevailing taste is for fresh or "powdered" butter, which cannot be delivered here in good condition. Butter which is "cured" loses its delicate flavor, and a foreign article will not be bought, except for cooking. And against this there is the competition of oleomargarine, mostly made on the continent by mixing fresh milk with the expressed oil of suet (brought generally from the United States), which from its cheapness is almost universally used.

The vegetables were many of them very fine, but most were remarkable only for enormous size. The potatoes were smooth, shapely, and of fair size. There were turnips of various kinds from 8 to 10 inches in diameter, and mangel wurtzels as large as a man's thigh and from 12 to 16 inches long.

There were specimens also of wheat, oats, barley, oatmeal, field-beans, and grass-seeds. Also, dairy and table salt of the finest quality.

FRANCIS H. UNDERWOOD,
Consul.

GLASGOW, *September* 3, 1886.

SIR: I have your favor of 31st ultimo asking me to furnish you with my views regarding the quality, the proper mode of making, keeping, and shipping American cheese for use in this country.

Having no working experience of the making of cheese at the factory, I will not venture to make any remarks on that branch of the article.

American cheese, very happily, fills up and meets a want during the months of May, June, July, and August of every year, catching up where the past season's home make runs out, and continuing on until the new make of home cheese is again ready for use.

For the remaining eight months of the year they are not so actively dealt in, especially in Scotland, except some exceptional circumstance occurs, such as cheapness compared with the price of home make, or scarcity of the latter from a poor season.

Every one in the trade is conversant with the fact that the factory system, introduced into the mode of manufacture of American cheese, was quite revolutionary. Year by year not only have the breed of animals been improved, the food given them studied, the processes of treating the milk, and the building of suitable premises for the purpose, but even the influence of light and air, heat and cold, have been subjected to close watching for the improved and perfect manufacture of the article.

Nowadays, from the use of stronger and closer-fitting boxes, a season's trading in cheese will be carried through, after its being brought by rail and steamer three to four thousand miles, with almost no damage, and which of itself is most satisfactory, because, in my own early history in figuring cost, 5 per cent. had to be estimated to cover the waste of broken and damaged cheese from too slim boxes.

Then again, after the yearly improvement in the manufacture, the next great factor in the success of the article was the building by shipowners of larger, quicker, and thoroughly ventilated steamers, which land the goods as cool and free from foreign flavor as they were when they left the factory, and it must not be forgotten that to the use of refrigerator cars in the land carriage in America we are also indebted for this perfection.

The quality of the article has already reached such a high state of perfection that I really may say I have no suggestions to make about the future except that the better the quality is, the more of it will be eaten.

No doubt those who are daily concerned in the working and profit earning of the article will from time to time discern what will be a further improvement, which in carrying out will the more firmly establish the good reputation of American cheese.

The consumption these last thirty years has grown immensely, without depreciating the value of home manufacture, showing the great good the importation of American cheese has been to the working classes.

It may not be foreign to the subject to mention here that Canada also has become an enormous exporter of cheese and of equally good quality with that of America, commanding about equal prices. There is some difference in the principle of manufacture of each; Canada has a cooler climate, and the process of maturing is slower, while the cheeses of America are made to ripen quicker, and during the summer season ready at once to go into consumption.

In conclusion, it may be transgressing, and yet it is the fact, that the better employed and higher paid our working classes are, they are the greater consumers of American

provisions, particularly cheese, and if the fiscal duties on British manufactures were moderated to allow our goods to go in more freely, it can easily be seen that in the end you would more than be refunded.

I am, &c.,

JOHN McNAIRN.

FRANCIS H. UNDERWOOD, Esq.,
United States Consul, Glasgow.

GLASGOW, *September* 2, 1886.

DEAR SIR: We have your favor of 31st ultimo. On the subject of American cheese, our experience of the last twenty years has been that the quality of the imports of this market has steadily improved. Of course, this is attributable to the more scientific principles applied to the manufacture and the establishment of the factory system.

The weakest point in the bulk of American cheese is that it matures more quickly and does not keep its flavor so long as our home manufacture. This arises from the fact that American cheese is made in a hotter climate. In proof of this, cheese made in the months of June, July, and August does not keep over winter, while the manufacture of September and October preserves well, retains mild flavor, and has almost all the qualities of the home make. Any process, therefore, in the making directed to overcoming the bad effects which hot weather produces would be most beneficial; but it rests with a practical maker to find out whether this may be possible.

Cheese made in Canada is preferred in this market to the United States make, and this is in part owing to cooler weather there in summer; but beyond that, we are of opinion that the Canadian more closely resembles the Scotch cheese, and hence the prefereuce.

States cheese are for the most part made on the model of English cheddar, and Canadian on the model of Scotch.

We are inclined to believe that the consumption of American cheese on this market will not increase much in the next few years, owing to the position in which our farmers are now placed. The low prices current for their cereal crops, owing to foreign competition, is causing the farmers to throw more land into grass every year, and increasing the number of dairy farms, which are more remunerative at present prices than crop farms. On this account there is more home cheese made to compete with the American.

The Scotch farmers are also introducing the factory system, which will still further stimulate the production.

Any further information you may require, we will be happy to give you if it may be in our power.

Ever truly, &c.,

JAMES OSBORNE.

FRANCIS H. UNDERWOOD, Esq.,
American Consul, Glasgow.

GLASGOW, *November* 2, 1886.

SIR: In reply to your esteemed favor of 31st August, asking us to give a report upon the produce trade between your country and this, we have pleasure in tendering the following:

The American dairy industry has rapidly grown to very large dimensions, and the product bulks so largely in the food supply of this Kingdom that any means that can be adopted whereby the quality may be improved must of necessity be as much to the interest of the British dealer as to the American producer.

States cheese still holds a very prominent position on our British markets.

The quality we are pleased to say has been greatly improved. This past season's make has been far ahead of its predecessors in general excellence; still we must confess that for keeping qualities the cheese made in Canada is vastly superior and much preferred. The cheese made in the States, is, we think, cured at too high a temperature, which causes it to mature too quickly, and very soon it gets strong in flavor, and in our variable climate of moist and heat, during the months of August and September, gets soft and decays. We think the factorymen in the United States ought to study to make their cheese at a slightly lower temperature and press it a shade firmer, and possibly a little higher salting might be useful.

Sometimes the coloring is a little irregular, which in either butter or cheese is a very serious fault. At the same time we must admit that as regards cheese we do not remember any season that has been so free of irregularly colored cheese as this one, although at the early part of the season there were a few lots very badly mottled. With care this could be entirely avoided.

Cheddar-shaped cheese, 60 to 65 pounds, or even 70 pounds, are best liked. We would suggest that cheese made during the last half of June and during July should

be made with the cloth all round, both top and bottom, as the heat during July causes scaleboards to adhere to the cheese and gives the cheese on the top and bottom the flavor of the wood, also causing red spots more perceptible in white cheese. We have often found Canadian cheese clothed in this way, which we found to be a great improvement, as they kept splendidly. Open or honeycombed cheese are greatly objected to, and ought to be carefully guarded against. A close made, fine, clean textured cheese is taken freely. Full cream is essential. The richer the cheese, the more marketable.

Our Liverpool firm reports as follows:

"In our district of the country our native cheese product is constituted the standard of comparison in quality and value. The more nearly, therefore, the American article can approach to the native produce in style and quality, the better its chance of finding a larger outlet.

"Hitherto Canadian cheese has formed the nearest approach of any to our home-made article, and we have lately seen some lots of Canadian cheese that would hold their own with any Cheshires. The Canadian cheese is well made, keeps well, and has a rich, sweet, mellow flavor that is greatly wanting in the States cheese generally. The great faults of the article produced in the States are: an acidity of flavor that is very objectionable, and which rapidly develops into something worse, and a want of keeping quality. The latter defect may of course be attributable to climatic influences which it may not be entirely possible to overcome or obviate. We feel sure, however, that the States dairymen are just as long-headed as their Canadian brethren, and if they would lay themselves out to imitate more closely the style, texture, and quality of the Canadian product (which at present has the preference), States cheese would be able to hold their own, and indeed command more attention.

"Our district prefers large, handsome, showy cheese, 60 to 70 pounds weight, full meated and white in color, Manchester district especially calling for an article of exceptional whiteness, but always silky textured, sweet flavored goods. The public taste has undergone such a complete revolution that whereas at one time a bit of fine well-kept old cheese was a luxury and commanded a good price, now only fresh goods command any attention at all.

"Other districts of the country, such as Yorkshire and the London district, take colored cheese. Here, again, style and quality are equally essential, and great attention has to be paid to the perfection of the coloring. Care must be taken that the coloring matter used should be of the finest quality, and so thoroughly incorporated into the texture of the cheese as to prevent that piebald appearance known as mottling, which is a fatal objection, and which at once makes an otherwise fine cheese very seriously depreciate in value. If this mottling arises from any other than merely mechanical causes they ought to be sought out and remedied. No doubt the change from the American climate to ours has a considerable effect, both on the character and keeping qualities of States cheese. Still, we believe that by care and attention on the part of dairymen to produce the best possible result in their product by turning out only goods of fine quality and by refraining from flooding the market with such rubbish as we have often seen here in quantity, the character of the product will be enhanced and its consumption greatly increased."

Butter.—This article, so far as both the States and Canada are concerned, has during the past few years almost entirely dropped out of the trade. Retailers now prefer to handle butterine, which has a fine flavor and is most agreeable to the palate, and so vastly superior to what has lately been sent to this country as States ladle-packed butter.

This so-called butter has completely turned retailers against all kinds of American butter, that fine dairy grades and creamery are, we may say, unsalable.

We are, &c.,

HOUSTON & McNAIRN.

FRANCIS H. UNDERWOOD, Esq.,
United States Consul, Glasgow.

FARM RENTS IN SCOTLAND.

REPORT OF COMMERCIAL AGENT WALKER.

One of the most striking facts connected with the agricultural depression in Scotland is the remarkable decline in farm rents. Of course very many reductions in rents are made which do not become known to the general public; but the more remarkable examples are widely discussed and cannot be misunderstood. Competent authorities estimate

that the decline in the value of farm products during the last few years amounts to about $10 an acre—the rent of a good farm. The price of potatoes, for example, has fallen off something like $10 a ton.

In order that the great fall in rents may be clearly understood it is necessary to specify a few cases. In Fifeshire, which is in this consular district and which is one of the leading agricultural counties, there are numerous notable instances. The farm of Cairncross was recently let at a rental of £325 for the total of 368 acres. Up to two years ago Cairncross rented for £717, which sum was reduced to £520, at which it remained until the recent reduction. On the estate of Ochtertyre the grass parks, covering 465 acres, rented last year for £475. This year the rent is £399. The farm of Colairnie has just been let at £640 a year. Six years ago the rent was £1,250. Last year the farm of Easter Lathrisk brought upwards of £500; a few days ago it was relet to the tenant for £360. Heretofore the farm of Avelross has commanded £820 a year, but the new tenant pays only £640. The farm of Lumbo brought last year £253, this year the rent has been reduced to £200.

All these farms are in Fifeshire, and the information given has been obtained from the ordinary sources. What is true of Fife is applicable to the entire Kingdom. In Dumfries a farm that lately rented for £567 a year has been relet at £400; another farm has fallen from £550 to £350, and still another from £300 to £200. Reductions of 30 and 40 per cent. are quite frequent in both Scotland and England.

The newspapers tell a story about "the largest farm in England." It is in Lincolnshire and covers 2,500 acres. Last year it rented for 20 shillings an acre; but at that rate the tenant lost money. This year he paid 10 shillings, but even at that low rent he has made nothing. The other day one of the largest of English land-owners reduced the rents on his great Devonshire estates 50 per cent. In 1875, it is stated, one of the great London hospitals enjoyed an income of £41,500 from farm lands in its possession. The hospital's income from the same lands at present is about one-half the sum mentioned.

Naturally there is a considerable demand for the revaluation of farms and a general readjustment of rents. It is about all farmers can do to make both ends meet. Indeed, many of them are being forced into bankruptcy.

The Scotch farmer thinks that he finds a plain case of cause and effect in American competition and low prices. He is obliged to compete with American wheat, beef, bacon, cheese, and other products, and he finds it an exceedingly difficult business. Prices have continued to decline for some years. The fall in wheat since January, 1883, has been about 10 shillings per imperial quarter; and during the same period potatoes have declined about £2 sterling per ton. These are the chief products of the Scotch farm.

The balance-sheet of an Ayrshire farmer for 1886 has been published. It is as follows:

Received:	£	s.	d.
Grain	40	16	0
Green crop	13	0	0
Hay	60	10	6
Stock	40	0	0
Dairy produce	201	10	0
Grazing	75	0	0
	430	16	6

Paid:			
Rent	200	0	0
Wages	64	17	0
Manure, feeding stuff	74	15	0
Interest on capital	40	0	0
	379	12	0

Leaving £51 4*s.* 6*d.* to pay taxes and tradesmen's accounts and feed and clothe and educate his children. The item of £200 for rent is significant. It amounts to nearly one-half the entire farm.

LUCIEN J. WALKER,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Dunfermline, February 9, 1887.

THE LEIPSIC LEATHER EXCHANGE.

REPORT OF CONSUL MILLAR.

The opening of the new buildings of the Leipsic Stock Exchange in September last led the commercial community of the city to entertain the idea of applying the exchange system to other branches of commerce where it had not previously been introduced. The first attempt to carry the idea into effect has just been made, on the occasion of the leather fair which takes place during the first week in January. The trade during the three hide and leather fairs, which take place at New Year, Easter, and Michaelmas, has hitherto been conducted either in the warehouses of the dealers, in booths erected on the sidewalks in the leather dealers' quarter, or on the open street, the hides being simply deposited in the road. The purchaser went from one warehouse or booth to another, selected the lots which suited him, and bargained for them. Many inconveniences of this method of purchase would, it is believed, be obviated by the erection of a common place where the members of the trade could meet each other. An official leather fair exchange was, accordingly, for the first time opened in the Exchange buildings on the 3d January, 1887, by the president of the Leipsic Chamber of Commerce. The result appears to have been satisfactory; some five hundred dealers took part in the transactions, and numerous bargains were concluded. On the other hand, competent authorities have expressed to me their doubt whether the new exchange will have much influence on the old course of business. The new system is said to be applicable only to certain well-known brands of leather, the quality of which varies very little; for other leathers, and especially for purchases in small quantities, it is believed buyers will still prefer to see and examine the actual lots which they intend to purchase. How far the new exchange will facilitate business with the United States it is difficult at present to say. The import of American leather to Leipsic is altogether insignificant. Inferior qualities of American leather are unsalable, and good qualities are at present excluded by the high freightage and import duties. American glove grain and goat grain are the only kinds which are much used by the leather trade here.

The leather brought in quantities to this fair is reported to have been mostly of poor quality and in small quantities. The principal sorts represented were sole leather, inner sole leather, kips, cow leather, horse leather for boots (*Rossanschnitt*), and sheep leather.

For comparison with American prices I subjoin the official report of the prices at the exchange and the fair:

[Prices in pfennigs per German pound. A German pound = ½ kilogram = 1.1023 pounds avoirdupois.]

Description.	Fair prices for parcels brought to the fair.	Exchange prices for known good and best qualities.
German horse leather, best	180 to 220	220
Buenos Ayres horse leather, best, for extra fine qualities	250 to 300	.....
Brown kips, for boots, about 6 to 7 pounds, best	160 to 185	185 to 225
Brown kips, for slippers (*Pantinen*)	110 to 120	.....
Black kips:		
4-pound skins, best	180 to 210	220 to 270
6-pound skins, best	160 to 190	200 to 230
Brown fahlleder (upper leather), about 10 pounds per skin	130 to 160	165 to 185
Brown fahlleder (upper leather), about 11 to 14 pounds per skin	.....	210 to 225
Vache-leder (cow leather), about 30 pounds per skin	120 to 135	140 to 155
Vache-leder (cow leather), heavy and strong, from finest cow-skins, best only	170 to 185	.....
German and imported inner sole leather (*Brandsohlleder*)	110 to 125	135 to 140
Native sole leather (*Zahmsohlleder*)	120 to 140	*155 to 165
Trier sole leather	.....	160 to 165
Siegen sole leather	.....	†165
Eschweg sole leather, best salted	140 to 150	†150
Eschweg, middling qualities (sole leather)	120 to 135	.....

* For heavy ox-skins. † About.

Harness leather and tanned and alum-dressed hides were unchanged in price.

It should be noted that fair prices and exchange prices differ from each other, because the former are for goods less carefully selected and dried, while the latter were only paid for brands of approved quality and reputation. Much of the fair goods remained unsold and was placed in commission.

Raw German hides were sold, as follows:

	Pfennigs per pound.*
Raw ox-hides:	
Red, over 80 pounds	30 to 40
Black, under 80 pounds	32
Raw cow-hides:	
Over 80 pounds	35
Up to 80 pounds	33
Light dry hides, for 16 to 18 pound skins	80 to 90
Raw calf-skins:	
3 to 4 pound hides	150
Under 3 pounds	155
Raw sheep-skins per pound	35 to 38

SAM'L ROLFE MILLAR,
Consul.

UNITED STATES CONSULATE,
Leipsic, Germany, January 10, 1887.

* 1 German pound = ½ kilogram = 1.1023 pounds avoirdupois. 100 pfennigs = 1 mark = 23.8 cents.

CULINARY EXHIBITION AT LEIPSIC.

REPORT OF CONSUL MILLAR.

From the 27th to the 31st of January, 1887, an exhibition of food and cooking processes was held at Leipsic under the title "*Erste internationale Ausstellung für Volksernährung und Kochkunst.*" The exhibition was opened by their Majesties the King and Queen of Saxony in person, and in respect of the completeness of the display fully deserved the distinction thus conferred upon it. Financially the exhibition was also a success, having been visited during the five days it was open by some 50,000 persons. The international character, however, was marred by the conspicuous absence of American exhibitors. I apprehend that the regretable absence was due to an underestimate, first, of the fact that a large field still exists in Germany for many articles of American produce, and, secondly, of the value of these local exhibitions. On the first point I shall have more to say when dealing with the separate exhibits; on the second it cannot be too well known that Berlin, though nominally the capital of the German Empire, is far from exerting the same dominating influence as Paris or London. Apart from the important fact that provincial German railways converge not to Berlin, but to the chief towns of the provinces, local, traditional, and even political associations combine to make a subject of one of the smaller German states accept an initiative far more readily from one of his own provincial towns than from Berlin. I would, therefore, strongly urge American manufacturers to avail themselves of the opportunities afforded by such exhibitions as the present one, in order to bring their wares directly under the notice of purchasers.

CHEAP FOOD.

A distinctive feature of the exhibition was the attempt made by the executive committee to secure a representative display of cheap food for the people as well as of cookery in its higher aspects. As was well remarked by Professor Hoffmann at the opening ceremony, the question of feeding the masses, which formerly only cropped out in seasons of extraordinary famine, has now become chronic, owing to the extension of town life and the distance between the laborer's home and his work. The result was shown in a very excellent display of fish and the arrangements for "Massenspeisungen." The exhibition of fish, which was chiefly in the hands of two Leipsic firms, G. Haertel, jr., and F. W. Lincke, would have done credit to a seaport. For an inland town, situated some hours from the sea, it was highly praiseworthy. It included not only the ordinary sea and river fish but many edible monsters of the Atlantic Ocean, of whose existence the majority of the spectators had hitherto probably had no idea. As a proof of the stores of food which yet remain to be utilized it was of great value.

"*Massenspeisung*," by which the Germans understand the rapid feeding of large bodies of men with hot food, is a question which has excited great interest in Germany ever since the war with France showed the necessity for a vastly improved system of commissariat. The perfection to which the apparatus has now been brought was shown on several occasions during the exhibition, when a hot meal for 1,000 or 1,200 of

the soldiers here in garrison was cooked and served out to the men in the short space of three-quarters of an hour. Three firms—Becker & Ullmann, of Berlin; A. Senking, of Hildesheim; and Demmer Bros., of Eisemach—were principally engaged in this part of the exhibition, which, in addition to field-kitchens for solid food, contained portable kitchens for soup, and a railroad car fitted up with a cooking apparatus for the sick and wounded. A peculiarity of the field-kitchens is that the heat is conveyed to the respective chambers in precisely the quantities required to cook the contents, so that overcooking is avoided, and, at the same time, the various constituents of the meal are simultaneously ready.

But neither an increased supply of fish nor the "*Massenspeisung*" meets the cheap-food difficulty. Fish, however cheap, can never become a substitute for meat. Improved arrangements for cooking *en masse*, although they enable cheap dinners to be supplied to the workingman in large towns, as in Leipsic, where a good meal may be got for 20 to 30 pfennigs (4¾ to 7$\frac{1}{10}$ cents), do not furnish cheap meals to the workman's wife and family, nor to the laborer in the small towns and villages. Cheap meals can only be obtained when meat is cheap.

AMERICAN MEATS.

Unhappily, the exhibitions showed that much still remains to be done to render meat cheap in Germany. Meat of all kinds, fresh and cured, was exhibited, and sausages in infinite variety; but though of excellent quality and of reasonable price, it was meat for the upper and middle classes. Meat is still a luxury for the workingman, and will remain so while expensive English lamb is imported and cheap American pork excluded. The existence of trichinæ, which was the ostensible cause of the exclusion of American pork from the German market, has long since been disproved, and the reports show that the disease is at least as frequent in German pork. The intention of the Government in protecting the interests of an important class of the community is laudable, but it is much to be lamented that some other means of obtaining the same end could not have been devised, because under the present conditions the only practical source of cheap meat is cut off from the equally important class of artisans and day laborers, and an additional cause of discontent is furnished to a body who are already only too much disposed to listen to the teachings of social democracy.

Similar observations may be made with respect to American corned and preserved beef. Although the consumption in Germany is considerable, the price is too high to enable it to be much used by the poorer classes. Here, too, it may be noticed that an opportunity of extending the sale of American beef was lost. Although there are depots of corned beef in Leipsic, no display of it was made by the agents, and still less was any attempt made directly by an American house to exhibit its products. Extracts of meat were shown by the Liebig and Kemmerich companies from South America.

COOKING-STOVES.

In connection with this branch of food-supply I may add that numerous economical cooking-stoves, gas-stoves, and refrigerators of all sizes for use in hotels and families were exhibited. The exhibitors were almost without exception Germans. In general it may be said that while they show evident signs of the progress of industry, they are not equal to American goods in finish of workmanship or in practical character. Two exhibits which deserve special notice are the model of a new

slaughter (house) and cooling house exhibited by the town council of Leipsic; and the "meat-preserving candles" of Baschnagel & Kraus, in Vienna. By the use of the candles, whose composition is a secret, it is stated that meat can be kept fresh for an indefinite period at any temperature and without the use of ice.

WINES.

Another article of consumption which demands attention in America is wine. The ravages of the phylloxera in French and German vineyards have seriously affected the supply of good cheap wine; and as no means yet exist of exterminating the pest, there is every reason to believe that the supply of wine will continue to diminish. There is consequently an increasing field open for a good cheap article; and I have been assured by a court purveyor that within the next few years a great future will be opened to American wines in Europe, provided the American wine-growers can keep their vineyards free from the plague and devote their attention to the production of a cheap wine to suit European palates. California wine is already known to some extent in Germany, and is procurable here in Leipsic from the well-known house of Hoffmann, Heffter & Co. No samples of it, however, were to be found in the exhibition, although Spanish, Italian, and Hungarian wines were well represented.

A further branch of interest to American growers is that of fruits dried or preserved in sirup. Extensive collections of these preparations were shown by European makers, and the processes employed appeared to have been very successful; but for size and quality the fruit could not be compared with Californian products, and there is no doubt that American fruits, energetically introduced, could compete successfully with native productions.

Having mentioned the points which seem to me especially worthy the notice of American manufacturers, I will briefly indicate the character of the exhibition in regard to other groups.

OTHER EXHIBITS.

Dairy products, milk, cream, cheese, and butter, were largely exhibited. The cheeses included both the common German and Swiss cheeses and the small fancy cheeses of which new specimens are always appearing in the market. Pure butter is gradually disappearing from commerce, and seems to be unable to bear the competition of the preparations of oleomargarine, artificial or "*Kuntsbutter*," as it is called in Germany. A product which excited considerable attention is the so-called "cocoanut butter," a white preparation from the cocoanut which is said to be an excellent substitute for butter in cookery.

Wheat was represented by various sorts of bread, chiefly by local bakers, pumpernickel, and biscuits (cakes), a branch of industry which is attaining large proportions in Germany. Two houses, A. H. Langnese & Co., of Hamburg, and the Wurzen Biscuit Factory, were especially noticeable for the excellence of their wares.

Tea, coffee, cocoa, and chocolate were exhibited chiefly by local or German firms, with the exception of the house of Van Houten, of Holland. Beer was represented principally by the local firms, Ribbeck & Co. and Nickau & Co., who have both a deserved reputation; by the brewery of the Augustine Monks at Munich, and by a brewery of Bavarian beer in St. Petersburg. Spirits were present in an infinite variety of brandies, essences, and liquors. Apparatus for drawing, bottling, corking, and similar processes was also exhibited.

Notwithstanding the attention devoted to food for the masses, artistic cookery was not neglected. The chefs of the leading hotels and restaurants in Leipsic exhibited a number of elegant and elaborate arrangements of dishes, which testified to the skill of the executants, though the style was in most cases somewhat too gorgeous for any but German taste.

Table services in silver and alfenide were exhibited by firms in Leipsic, Berlin, and Munich.

Table linen and linen dresses for cooks and waiters were also represented.

The literature of the culinary art was exceptionally well cared for. The Leipsic international society for culinary art, a similar society in London, the society of hotel employés, and several private individuals, exhibited large collections of bills of fare of all descriptions, from plain black and white to the elegant silk and lace of royal banquets. Especially interesting was the collection of cookery books and books on kindred subjects exhibited by Herr Theo. Drexel, of the Hotel de Russie, in Frankfort-on-the-Main. The collection extends from the earliest works of the fifteenth century down to the present time. The care and thoroughness as well as the expense which have been devoted to the formation of this library are shown by the single fact that it contains a fine copy of the rare Elzevir edition of the "*Pastissier Français*," which was secured at a cost of 3,000 marks (about $714). Curiously enough the collection has hardly been noticed by any newspaper in this great German book town.

SAM'L ROLFE MILLAR,
Consul.

UNITED STATES CONSULATE.
Leipsic, Germdny, February 7, 1887.

THE PROFIT AND LOSS OF THE GERMAN INDUSTRIAL JOINT-STOCK COMPANIES.

TRANSMITTED BY CONSUL MILLAR.

[Translated from the Leipsiger Zeitung of December 15, 1886.]

Following our usual practice, we give for this year the chief figures of the tables periodically published by Dr. R. Van der Borght in Conrad's *Jahrbuecher* and based on the *Jahrbuch der Berliner Boerse*. It must be remembered that the figures are confined to industrial companies, and consequently do not apply to insurance, banking, or railway companies.

We first give a general view of the totals of the figures for the last five years.

Year.	Number of companies.	Share capital.	Percentage of the share capital.		
			Net profit.	Dividends.	Deficit.
		Marks.	*Per cent.*	*Per cent.*	*Per ct.*
1881	243	930, 430, 140	4. 13	3. 14	4. 06
1882	247	924, 092, 300	5. 61	4. 28	2. 19
1883	254	944, 749, 871	6. 41	4. 93	1. 59
1884	248	940, 336, 371	5. 23	4. 58	1. 38
1885	247	913, 015, 400	5. 81	4. 34	1. 42

As compared with the previous year, the number of joint-stock companies, and consequently the share capital, will be seen to have somewhat diminished; the net profit and the deficit have somewhat increased; the dividends, however, have also decreased, probably in consequence of an increase in the amounts written off and put to reserve. All in all, the year 1883 shows the most favorable figures. So much on the position in general.

The division of the share capital among the different branches of industry is shown by the following table, arranged in decreasing order:

Industry.	Share capital.		Number of companies in 1885.
	1885.	1884.	
	Marks.	*Marks.*	
Mining and smelting	420,415,800	435,180,700	68
Building and land speculation	88,032,800	80,589,400	24
Conveyance and forwarding	81,791,500	72,911,771	23
Machinery and railroad requisites	79,071,600	81,444,000	30
Breweries and distilleries	41,032,900	42,687,900	21
Various	38,795,200	51,335,800	15
Chemical industry	38,565,400	41,315,000	13
Spinning, cotton mills, &c	30,962,400	29,215,000	11
Gas and water	25,950,000	24,750,000	5
Building materials	14,677,000	11,957,000	9
Sugar factories	13,200,000	13,200,000	5
Metal work	11,085,800	26,534,800	7
India-rubber	9,410,000	9,410,000	5
Electricity	8,000,000	----------	2
Paper, wall-paper	5,400,000	6,850,000	4
Glass, porcelain	3,825,000	4,155,000	2
Useful societies	1,900,000	7,900,000	2
Cloth	900,000	900,000	1

Mining and smelting, building and land speculation, still stand at the head with the largest amount of capital, but the positions of the other branches of industry have shifted considerably. Especially striking is the decrease of capital in the mining, chemical, metal, and machine industries. More or less an increase is shown by the figures for building and land speculation, conveyance and forwarding, building material, and spinning.

The statistics of the dividends will be of universal interest. The average dividend was:

	Per cent.
1881	3.44
1882	4.22
1883	5.01
1884	4.80
1885	4.57

The rate has therefore fallen since 1883 as regularly as it rose up to that date, still the dividend of the last year, 4.57 per cent., may be said to be favorable when compared with the current rate of interest in the country. To give a general view of the prosperity of the various branches of industry we have arranged them in the following table according to the height of their dividends. The average dividend per cent. was:

Industry.	1885.	1884.
India-rubber	9.46	10.67
Gas and water	7.62	8.0
Building material	7.41	4.93
Breweries and distilleries	7.17	5.84
Paper, wall-paper	6.88	7.25
Chemical industry	6.38	6.80
Machinery, &c	5.42	6.53
Cloth	5.0	5.0
Metal work	4.86	3.95
Spinning, &c	4.75	8.23
Conveyance and forwarding	3.92	4.64
Mining, &c	3.32	3.56
Sugar factories	2.80	3.30
Building and land speculation	2.51	1.73
Electricity	2.50	3.13
Glass and porcelain	2.46	2.39

There is an increase of the average dividend in only six branches, viz: Building material, breweries, &c., metal work, building and land speculation, and glass and porcelain. The increase was greatest in the two groups first named. In all other branches the divid end has fallen, most of all in spinning. If we classify the 247 companies according to the dividends declared, we find that

	Per cent.
77 companies divided	0
62 companies divided	5 to 10
29 companies divided	4 to 5
18 companies divided	3 to 4
17 companies divided	1 to 2
17 companies divided	10 to 15
16 companies divided	2 to 3
8 companies divided	0 to 1
7 companies divided	over 15

The largest class is still furnished by those companies which divide no dividend at all, but it has fallen by two as against the previous year, when it comprised 79 companies.

Companies with an actual dividend up to 5 per cent. have increased by 7; those with more than 5 per cent. have diminished by 5.

The highest dividends in the respective branches were given, as follows:

	Per cent.
Friedrichshoehe, formerly Patzenhoper brewery	33
Schwarzkopff Machine Building Company	27
Didiers fire brick factory, Stettin	20
Rhine steelworks, Meiderich	29
United India-rubber goods factory, Harburg	20
Schering's chemical factory	18
Paper factory, Croellwitz	15
Continental Gas Company, Dessau	12
Berlin bread factory	12
Berlin General Omnibus Company	11
Jute and Flax Company, Brunswick	11
Coehlmann & Co's. starch-sugar factory	10
Ludwig Loewe & Co., Berlin	10
Magdeburg Building and Credit Bank	8½
German Edison Company, Berlin	5
Berlin aquarium	3
Optical Institute, Rathenow, (factory)	2½

The number of companies, again, which worked at a loss was,

	Per cent.
In 1881	56 companies lost 23
In 1882	47 companies lost 19
In 1883	38 companies lost 15
In 1884	44 companies lost 18
In 1885	37 companies lost 15

The figure for 1885 is therefore the lowest since 1881. Compared with the previous year it has risen only in mining, &c., (from 14 to 17) and in spinning (from 1 to 2). With reference to the amount of capital the greatest increase in the deficit occurs also in mining (from 3.9 to 8.6 millions), the next in breweries (from 91,529 to 450,000 marks), and finally in conveyance and forwarding (210,108 to 701,251 marks).

MECHANICAL LOOMS (POWER) AND HAND LOOM.

REPORT OF CONSUL FÜRSTER.

The following remarks are based upon my own personal observation and inquiries while on a visit to the mechanical silk weaving establishment of Messrs. Ernest Niepmann & Co., at Graefrath, a town of about 10,000 population and which belongs to the jurisdiction of the Elberfeld consular district.

The mechanical or power-loom weaving being, just at this time, in a state of rapid development in this district, which, together with Cre-

feld, may properly be called "the principal district of silk industry within the German Empire," it may be commendable, for obvious reasons, to embrace the result of my visit in the general heading of "silk industry in Germany."

The first beginning of mechanical silk weaving made in this district dates back to about 1852 to 1855.

Only raw silk—*i. e.*, silk that was not freed from the natural bast by having been boiled in well-water—was then used, and the fabric or goods were afterwards dyed or printed in the piece.

This *modus operandi* did not then attain a fair degree of perfection owing to the imperfect condition of the power-loom at that time and because the process of dyeing whole pieces of silk was yet in its infancy in this district. At the end of '69 or the beginning of '70 some enterprising firms began the weaving by mechanical looms of silk that had been dyed in the skein or floss. The great obstacles encountered by the manufacturers in their new process were so manifold as to retard a more rapid development of mechanical silk-weaving and to deter others to follow the example set by these few enterprising firms. Thus it is explained why mechanical silk-weaving in this locality can only be dated from about the middle of the decade (1870–1880). The experience made by these few firms, and the constantly increasing improvements in the power-loom, enabled those firms to attain, step by step, a higher degree of perfection in the manufacture of their silk fabrics, while by a strict observance of secrecy of their improvements they remained up to this day the sole proprietors of the mechanical process of silk-weaving. But, while from the above reasons weaving in silk which was dyed in the skeins (or floss) remained in the hands of a few, weaving in raw silk (being afterwards dyed in the piece) has of late years assumed great proportions. It is necessary in this connection to point out the great differences existing in the weaving of raw silk. Raw silk—*i. e.*, silk that has not been boiled—naturally has a certain shiny cover, called "bast," while boiled silk, dyed in the skein, or floss, by undergoing the process of boiling and the application of soap, becomes freed from this "bast," and assumes a very soft and downy appearance, making the weaving by the mechanical loom extremely difficult.

How these many difficulties were overcome by perseverance and indomitable energy I shall endeavor to show by giving a brief report of my personal visit to the "mechanical silk-weaving establishment of Messrs. Ernst Mipmann & Co., at Graefrath," about two English miles from Elberfeld.

The raw material used in the manufacture of silk and silk-mixed fabrics (principally for silk umbrellas) is said to be spun after a special method, the secret of which is strictly kept by the proprietors, also a certain dyeing process. The handling of the raw material is done in rooms especially provided. The quality of the silk is greatly depending on the influences of the air.

The chain (*Kette*) is made up on well devised machines furnishing with astounding rapidity perfectly prepared chains. Very complicated machines are used to produce the woofing-spools in endless varieties and great productiveness, whereby it is possible to do all the different manipulations and preparations at an extremely low cost. According to the strength of the articles to be produced various systems are in vogue. The whole apparatus in the establishment is very ingeniously arranged and calculated to avoid, as much as possible, the breaking of any threads in the chain (*Kette*). In this exact management is to be found the main secret of the greater or lesser productiveness of the mechan-

ical or power loom, which is constantly at work. Watching the motions of 2 large looms, attended to by *one* hand, I inquired how many meters were made in a day, and the reply was 24 meters on each loom, making 48 meters for the two looms, while by the hand-weaving process one good weaver within 12 working hours per day could produce only 4 to 5 meters of the same kind of goods. All further work, as, for instance, polishing and dressing, is done by specially constructed machinery working with a rapidity, regularity and exactness that is really astonishing to a casual observer.

After having witnessed the workings of the various machinery and examined the whole establishment for about two hours, I was fully convinced that the cost of production must have been reduced to a minimum and that the problem has been successfully solved that silk goods can be made by mechanical looms just as well from raw silk as from silk dyed in the floss or skein.

The result of my observations during this visit, and of the information I received both from laborers and from the very polite and liberal-minded owners of the establishment, culminates in the one sentence, "That the cost of production of silk textile fabrics (exclusive of raw material) is from 60 per cent. to 80 per cent. less by mechanical or power-loom than by hand looms," a result which, however, can only be obtained if everthing in the necessary machinery and in the management is of first-class order and if a majority of the workmen are trained for their various avocations.

The firm of Ernst Niepmann & Co. have of late connected with their factory a dyeing establishment after the very latest and most improved system of silk dyeing in floss or skein and in the piece.

CHARLES FÖRSTER,
Consul.

UNITED STATES CONSULATE,
Elberfeld, Germany, January 22, 1887.

VINTAGE ON THE RHINE.

REPORT OF COMMERCIAL AGENT SMITH.

The vintage on the Rhine is ended at some places, almost completed o in full go at others, and just beginning or about to be commenced at a few more. The vintage, according to general report, turns out to be on the whole, a very light one in quantity, of splendid quality, especially where the grapes are selected. The present autumn has been unusually propitious in this vicinity, bright and warm days continuing down to the 1st of November, thus very favorable for the proper maturing of the grapes, but unfortunately the crop is very small due to bad weather early in the season. The wine it is claimed, that will be realized from this year's grapes is going to prove to be the best since 1868, when a magnificent product both in quality and quantity was cellared, but far behind it in quantity, much to the regret of the vine-dressers. Prices are consequently high, and double and treble what they were last year.

In the Rheingau the quantity turns out to be larger than was expected, and it is thought will be in this respect what is known as a one-third to one-half vintage. The quantity varies, however, in the different vineyards, some making a good yield, while others render a very poor one. The grapes are said to be very "brühig," and give ex-

cellent must. The quality is considered to be very fine, being quite sweet, with little acidity. In the best vineyards through selection of grapes, wine will be obtained it is said that will have to be reckoned among the best of the century. The prices for must vary. In Caub must brings 70 to 76 marks ($16 to $18) an ohm (about 35 gallons) it is reported, while in Rüdesheim, Geisenheim, Eibingen, &c., 120 to 200 marks ($28 to $47) are demanded. The wine merchants have been buying actively, but the vineyard owners are holding their product back in the expectation of receiving still better prices. At Oestrich the new wine is said to promise to be better than that of 1868. For the ohm 80 to 160 marks ($19 to $38) are paid for must; but few sales are made, as buyers will not purchase on account of high prices.

Must weights of 100 oechsle and over are not seldom, and a must weight of 120 even has been obtained. In the Lower Rheingau, at Caub and Lorchhausen, the vintage has been over for some days. The result was a one-third vintage, of fine quality. The price of grapes is high. At Lorchhausen and Caub, for instance, 80 to 85 marks ($19 to $20.25) were paid for 200 liters of grapes, which afford 160 liters of must, and for the so-called Lorcher-Bodenthaler 100 to 115 marks ($23.80 to $27.25). On the left bank of the Rhine there was also active buying with 60, 72, 90, and 100 marks ($14.25 to $23.80) being paid for 200 liters of grapes.

The vintage on the left bank is to be designated in general as medium good, and for many vine-dressers the vintage of 1886 will be one of their good ones. At St. Goarshausen the must weighs 73 to 78 oechsle, and will give, it is thought, one of the best wines for that neighborhood of the century. At Braubach, a liltle lower down the Rhine, the vintage was also a one-third one in quantity, with an average must weight of 75 oechsle.

In the Rheingau around Rüdesheim, Johannesberg, &c., the vintage is not yet finished. A fine product is being gathered. The must weight is 85 to 100 oechsle and over.

On the Moselle the vintage is about ended, and shows a one-sixth to one-fifth yield in quantity. The wine it is claimed will be better than that of 1885, but not as good as that of 1884. Some little must has been sold at 220 to 240 marks ($52 to $57) for 1,000 liters, and at 300 marks ($71) for must from selected grapes. High prices prevent buying.

From the Haardt the report is that the grape yield this year is only one-twelfth to one-tenth a harvest, of very good to excellent quality.

The must weight runs up in some vineyards to as high as 115 oechsle. The prices are high, and brisk buying has been going on. The vintage is at an end.

In Rhine-Hesse the must obtained indicates an excellent wine. In the medium vineyards the must weight is 90 to 96 oechsle, in the most inferior ones 65 to 70. The acidity is found to be but little beyond the normal acidity of 5 per cent. This shows that the product is a very fine one. In quantity, on the other hand, is the crop a very poor one. Some vineyards have yielded acceptable quantities, amounting to one-third a harvest, but in general the yield has been less, and often amounted to only one-eighth or one-tenth vintage, which deficiency the quality does not make up for. In many instances the amount of grapes on the vines is said to have been so small that the vine dressers, rather than take the trouble to gather them in themselves, sold them as they hung, and let others do the picking. In some places this bartering of the hanging grapes is represented to have been very active.

At Mackenheim the must weight of Riesling grapes grown on the Rodenberg is 108 to 115 oechsle, with 6 per cent. acidity. In the other vineyards it runs to 89, with $5\frac{7}{10}$ acidity. At Bodenheim the must weight is 90 to 98 oechsle in the mediumly good vineyards, in the good ones up to 110. The result is a one-fourth vintage. At Landenheim the medium vineyards show a must weight of 85 to 90 oechsle, the better ones 98, while the very fine ones give a weight of 100 and over. The acidity runs from $5\frac{1}{2}$ to 7 per mille.

JAS. HENRY SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, November 6, 1886.

PRICES IN GERMANY.

REPORT OF COMMERCIAL AGENT SMITH.

I transmit a statement showing the average prices of the leading articles of food in the Grand Duchy of Hesse during the months of April, May, June, July, August, and September last, compared with the average prices during the corresponding months of 1885, which statistics have been published by the Hessian Government.

[Price per 100 kilograms = 220⅔ pounds avoirdupois.]

Date.	Wheat.	Rye.	Barley.	Potatoes.	Peas.	Beans.
April, 1886	$4 21	$3 60	$3 52	$0 99	$6 32	$6 39
April, 1885	4 55	4 03	4 25	1 02	7 09	6 98
May, 1886	4 23	3 56	3 45	92½	6 30	6 39
May, 1885	4 63	4 04	4 21	1 00	7 00	6 84
June, 1886	4 33	3 57	3 42	96	6 31	6 33
June, 1885	4 59	3 94	4 14	1 02	6 83	6 86
July, 1886	4 25	3 55	3 41	1 01	6 26	6 44
July, 1885	4 46	3 85	3 93	1 21	6 82	6 81
August, 1886	4 18	3 43	3 35	1 11	6 49	6 55
August, 1885	4 14	3 63	3 72	1 24	6 59	6 64
September, 1886	4 11	3 47	3 48	1 08	6 30	6 49
September, 1885	4 10	3 64	3 67	1 11	6 55	6 64

The following articles brought, per kilogram (that is, a little more than $2\frac{1}{5}$ pounds avoirdupois):

Date.	Beef.	Veal.	Mutton.	Pork.	Wheat flour.	Rye flour.	Rye bread.	Butter.	Burnt coffee (in the bean).
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
April, 1886	30.7	24.9	27.1	27.8	8.8	6.6	5.4	40.8	67.6
April, 1885	31.8	25.9	28.3	26.6	9.5	6.6	5.4	46.4	69.7
May, 1886	30 7	25.4	27.1	27.6	8.8	6.6	5.4	45 6	66.6
May, 1885	31.8	26.1	27.8	26 8	9	6.6	5.4	46.4	69 2
June, 1886	89.9	25.4	27.1	27.6	9	6.6	5.4	43.5	66.8
June, 1885	31.8	25.9	28.3	26.8	9	6 6	5.4	41.6	69.2
July, 1886	30.7	25.7	26.8	27.6	9	6.9	5.4	43.8	65.2
July, 1885	31.4	25.7	27.8	26.8	9.2	6.6	5.4	42.8	67.7
August, 1886	30.7	25.7	27.3	27.4	9	6.9	5.4	45.3	65.2
August, 1885	31.6	26.1	28	27 8	9.2	6.6	5.4	43.2	66.4
September, 1886	30.9	26.1	26.2	27.6	8.8	6.1	5.4	48.5	65.2
September, 1885	31.6	26.4	27.8	28	9.2	6.6	5.4	44.4	66.8

Eggs brought about a cent apiece.

Milk cost 4 cents a liter (about a quart) during all the months in question.

Petroleum varied in average price from 4.7 to 5.4 cents a liter during the months of 1886 under consideration, and is put at 5.4 cent for those of 1885.

Coal brings about 41 cents per 100 kilograms (220 pounds).

Oats, hay, and straw commanded the following prices:

Date.	Oats.	Hay.	Straw.	Date.	Oats.	Hay.	Straw.
April, 1886	$3 51	$1 66	$1 19	July, 1886	$3 42	$1 46	$1 17
April, 1885	3 81	1 37	1 04	July, 1885	3 84	1 31	1 03
May, 1886	3 46	1 64	1 22	August, 1886	3 23	1 33	1 08
May, 1885	3 86	1 33	1 05	August, 1885	3 49	1 23	93
June, 1886	3 46	1 65	1 23	September, 1886	3 14	1 33	1 04
June, 1885	3 85	1 37	1 10	September, 1885	3 31	1 41	96

JAMES HENRY SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, December 21, 1886.

PRISON SYSTEM OF THE NETHERLANDS.

REPORT OF MINISTER BELL.

I have the honor to transmit herewith, for the information of those whom it may concern, a copy of a correspondence recently exchanged between the legation and the ministry of foreign affairs here with regard to the management of the penal and reformatory establishments of the Netherlands, and especially in reference to the results of the cellular system of imprisonment.

The inclosures consist of—

(1) A copy of a communication addressed by me to the minister of foreign affairs under date of September 27, 1886, in which I requested general information concerning the important characteristics of the fundamental plan of regulating the penal and reformatory institutions of the Netherlands.

(2) A translation of the reply of the minister of foreign affairs under date of February 12, 1887, with the documents mentioned and described by him therein.

(3) A translation of the extract from the report of the ministry of justice mentioned by the minister of foreign affairs, as containing the reply to the special question propounded in my note of September 27, save as remarked those indicated under Nos. 4, 5, and 6.

The questions marked Nos. 4, 5, and 6, and found in the copy of my note of September 27, will be, as suggested by the minister of foreign affairs, addressed to the local authorities at Amsterdam, from whom I hope in time to procure full and authentic information in answer to those inquiries.

By reference to the report of the 11th of November, 1873, made to the state general by Mr. de Vries, the then minister of justice, upon the result of the cellular system, it will be seen that the system was admitted into the legislation of this country by the law of June 28, 1851.

The system having been introduced originally to test its merits provisionally, the cellular imprisonment was limited to six months, and applied only, in the discretion of the judge, to specially culpable cases. After the expiration of three years the duration of the penalty was doubled by the law of June 29, 1854.

The system having been found to produce beneficial results, was, from time to time, gradually extended to the different penal establishments throughout the Kingdom.

From an examination of the table on page 4 of the report of Mr. de Vries you will perceive the progressive increase of the condemnations to cellular punishment between the introduction of the system in 1851 and the year 1870.

By the law of the 24th July, 1871, new and important extensions were given to the application of the cellular system, but in that law there was no departure from the principles of the law of 1851.

The introduction of the new penal code on the 1st of September, 1886, rendered other changes necessary in the system of prison administration.

It will be seen by reference to the answer from the minister of justice to inquiry No. 12, that it is maintained that the results of the working of the cellular system are considered favorable here, as is shown by the fact that in drawing up the new penal code the duration of solitary confinement was still further extended from two to five years. It is true that the trial of the system is not yet complete, but it may be safely said that the results so far obtained all favor the cellular system.

The minister of justice in his report in 1873 fully describes the effects of the system as then practiced in the Netherlands. On page 9 of this report will be found a full explanation of the sense in which the cellular system is applied in this country.

On page 10 of the same report will be found a statement of the results obtained, taken from the experience of those who have been called upon to apply the system. The results obtained within the prison, as well as without, are fully described. On page 11 will be found a full description of the construction and dimensions of the cells. On the same page will be found an account of the manner in which the prisoners are clothed, fed, and bedded.

It will be seen by reference to the same page that the regulations prescribe daily exercise in the open air.

The detained are visited daily not only by the authorities in charge of the prison, but by the members and committees of a benevolent society well known in Holland, which has its branches at all points where prisons are located.

This society, which continues its work with great zeal, is said to have accomplished much good in the way of promoting the moral and intellectual condition of the prisoners.

On pages 12 and 13 will be found an account of the nature of the work allotted to those undergoing cellular punishment.

On page 14 will be found an explanation respecting the sanitary condition of those subjected to the cellular system.

On page 17 will be found extracts from numerous reports with regard to the mental condition of those detained in cells.

On page 18 will be found a statement respecting the outward conduct of those condemned to cellular punishment.

On page 19 will be found a statement showing the effects of religious instruction and education on those condemned to cellular punishment.

On page 21 will be found a statement showing the conduct after liberation of those who have suffered cellular imprisonment.

On page 24 will be found a statement showing that many of the crimes for which the prisoners were condemned to cellular imprisonment were attributable directly or indirectly to the abuse of strong drinks.

The circumstances cited and figures presented in this report unite in pleading in favor of the cellular system of imprisonment.

The legislation of this Government makes it quite evident that the authorities of the Netherlands are so well satisfied with the result not only to the state, but to the prisoners as well, that it is only a question of time when the cellular system will entirely replace the system of association.

ISAAC BELL, JR.

LEGATION OF THE UNITED STATES,
The Hague, March 4, 1887.

[Inclosure No. 1.]

Minister Bell to his excellency the minister of foreign affairs.

LEGATION OF THE UNITED STATES,
The Hague, Netherlands, September 27, 1887.

SIR: In view of the important strides made by the Government of the Netherlands in prison reform, and of the changes rendered necessary in the system of prison administration by the introduction of the new penal code, the Government of the United States is impressed with the importance of possessing authentic data concerning the principal features or important characteristics of the fundamental plan of regulating the penal and reformatory establishments of the Netherlands.

I have therefore the honor to request on behalf of my Government, in case such documents are intended for public distribution, to be furnished with copies of the decrees, laws, rules, and regulations which govern the management of the penal and reformatory establishments of the Netherlands.

I have also the honor to request to be furnished with copies of any and all official statistics recently issued by the Government of the Netherlands for public distribution, showing in detail the more serious crimes with which this Government has had to deal.

I will feel greatly obliged for information upon the following special points:

(1) Whether the prisons of this country are based upon the principle of association or the cellular system?

(2) If the cellular system, whether it is rigidly and strictly enforced; and if not, with what limitations was it instituted?

(3) What arrangements, if any, have been adopted for the systematic instruction and frequent visitings of prisoners by committees or inhabitants of the respective localities?

(4) How and by what authorities are such committees selected?

(5) What arrangements are made to guard against the abuses or interference by such committees with the authority of the resident officers of the establishments?

(6) What is the nature of the Dutch plan of arrangement for the patronage or aid of discharged prisoners?

(7) What has been the bodily and mental health of the prisoners subjected to cellular imprisonment?

(8) What are the regulations in force to prevent solitude and idleness in cases of cellular imprisonment?

(9) What, if any, provision or arrangement is made for the removal of prisoners to associated labor in case it is desirable in order to obviate mental or bodily injury?

(10) What forms of industry are carried on by the inmates of the Dutch prisons?

(11) What precautions, if any, are observed to prevent the recognition of prisoners when passing from one part of the prison to another, or in the presence of a stranger?

(12) What are the practical effects and merits of the cellular system as practiced in the Netherlands?

(13) What are the dimensions of the cells ordinary and special for the use of single prisoners?

(14) Is drunkenness considered to be an important factor or chief cause of crime in the Netherlands?

Thanking your excellency in advance for any information upon the general subject of this inquiry, I willingly avail myself of this opportunity to renew to your excellency the assurances of my highest consideration.

I am, &c.,

ISAAC BELL, JR.

[Inclosure No. 2.—Translation.]

The minister of foreign affairs to Mr. Bell.

MINISTRY OF FOREIGN AFFAIRS,
The Hague, February 12, 1887.

MR. MINISTER: To satisfy the desire which you have been good enough to express in your letter of 27th September last I have the honor to forward to you herewith a copy of—

(*a*) The law of March 3, 1881 (Official Journal No. 35) promulgating the new penal code.

(*b*) The law of January 3, 1884 (Official Journal No. 3) indicating the establishments where the penalties of detention or imprisonment should be suffered.

(*c*) The law of January 15, 1886 (Official Journal No. 6) modifying some provisions of the penal code.

(*d*) The law of January 15, 1886 (Official Journal No. 7) in execution of Articles 38 and 39 of the penal code.

(*e*) The law of April 14, 1886 (Official Journal, No. 62), fixing the principles of the penitentiary system.

(*f*) The law of August 28, 1886 (Official Journal, No. 130), containing modifications and amplifications of the law of January 3, 1884. (Official Journal, No. 3.)

(*g*) The royal decree of August 31, 1886 (Official Journal, No. 159), in execution of article 22 of the penal code.

(*h*) The law of June 28, 1851 (Official Journal, No. 68), by which the cellular imprisonment has been introduced in the Netherlands, and by which some regulations have been fixed for the application of this system. Those regulations have, however, been abolished on account of the entrance in force of the new penal code.

(*i*) A report made in 1873 upon the operation of the cellular imprisonment system.

(*j*) The judicial statistics for the year 1885.

(*k*) The prison statistics for the year 1885.

With regard to the special questions contained in your letter I permit myself, Mr. Minister, to refer you to the note, also herewith inclosed, containing the reply to those questions, save in that which concerns those indicated under Nos. 4, 5, and 6, on the subject of which the committee of directors of the society called *"Nederlandsch Genootschap tot Zedelijke Verbetering der Gevangenen"* at Amsterdam, will itself give you the necessary information if for that purpose you desire to address yourself directly to that committee.

I am, &c.,

KARNEBEEK.

[Inclosure No. 3.—Extract.]

MINISTRY OF JUSTICE, FOURTH SECTION, NO. 161,
The Hague, February 5, 1887.

1. From the date of the introduction of the new criminal code on the 1st of September in the past year all sentences of imprisonment on persons who have attained the age of from fourteen to sixty years inclusive, so far as their physical and mental condition permits it, shall be undergone in solitary confinement during the first five years.

On the expiration of the first five years the solitary confinement shall be replaced by confinement with other prisoners, unless the prisoner is allowed by the chief of the department of justice, at his own request, to undergo all his remaining term wholly or partly in solitary confinement:

(*a*) For those prisoners who have been condemned for a longer period than five years.

(*b*) For those prisoners who, at the date of their sentence, have not yet attained the age of eighteen years and are not proper subjects for solitary confinement.

(*c*) For those prisoners who have attained the age of eighteen years and are not proper subjects for separate confinement, special descriptions of confinement in association with other prisoners are assigned.

The punishment of arrest and of military detention shall be undergone by the person sentenced separately, or in association with other prisoners, according to their option.

2. The separation of prisoners shall be applied as strictly as possible.

3. Prisoners sentenced for a longer period than three months, who have not yet attained the age of forty years, so far as they stand in need of it, shall receive instruction in reading, writing, and arithmetic. The members of the local section of the Netherlands Association for the Moral Improvement of Prisoners, the central committee of which is seated at Amsterdam, shall be allowed to visit prisoners. The prisoners may not be compelled to receive them.

* * * * * * *

7. In the application of solitary confinement during two years as a maximum. Before the 1st September, 1886, there was no evidence that solitary confinement had an injurious influence on the physical and mental conditions of the prisoners. From the nature of the case no opinion can as yet be formed of the consequences in this respect that will ensue from solitary confinement for a period of five years.

8. By Article 14 of the criminal code all prisoners are *bound* to perform the work assigned them. Refusal to perform this work, or remissness in doing it, is considered an infringement of order and discipline, and is punished accordingly. It deserves remark, however, that one of the punishments that may be inflicted on prisoners by the law of the 14th of April, 1886, is deprivation of work, so little is remissness apprehended in the prisoners undergoing solitary confinement, and so confidently is work considered to be a need and also a sort of distraction on their part.

9. As has been already said in the answer to question 1, the prisoners who are not fit subjects for solitary confinement are consigned to special forms of confinement in association with other prisoners.

10. For the answer to this question the exhaustive returns in the statistics of the prisons should be consulted.

11. The prisoners detained in cellular confinement as soon as they quit their cells wear a cap which conceals their faces and makes them unrecognizable.

12. For answer to this question the report on the working of the system of solitary confinement should be consulted.

That the results are favorable is proved by the fact that in finally drawing up the criminal code the duration of solitary confinement was extended from two to five years.

13. The cells last built are 4 meters long, 2.66 meters wide, and 2.80 meters high. The cubic content, therefore, is 30 cubic meters.

14. Although it cannot be proved by figures, it is generally believed that in the Netherlands drunkenness is often the cause of crimes and offenses. In cases of assault upon the person, for example, drunkenness is undoubtedly in most instances the occasion of it.

FORESTRY IN THE CANTON OF VAUD, SWITZERLAND.*

REPORT OF CONSUL ADAMS.

AREAS OF FORESTS.

With the exception of the territory covered by the Canton of Geneva at the outlet of the lake, and by Savoy on its southern shore, the Canton of Vaud includes the whole basin of Lake Geneva. The important forests on the southern slopes of the Jura and of the Bernese Oberland extend into this region. The area of all the forests is as follows:

	Acres.
Cantonal forests	18,881
Communal forests	106,795
Private forests	54,758
	180,434

The Confederation owns no forests in the canton, but exercises a supervision over certain forests declared *forêts protectrices*, that are maintained as a protection against torrents, land-slides, avalanches, &c.

* See Consular Reports No. 74, p. 426.

COMMON FORESTS.

Both the cantonal and communal forests are subject to certain rights, whether of the communes or of individuals, and which the state is trying to extinguish by purchase, as provided in the forest law of January 31, 1873 (Title VII, p. 52). The rights in question are principally to pasturage for cattle and to the lumber required for bridges and public buildings. Besides these privileges special permissions are granted in seasons of insufficient supply to cut the grass in the forest domain or to introduce cattle for pasture, but with certain conditions limiting the area thrown open, the hours of pasturing, the number and kind of cattle admitted, &c. Wherever necessary young forests are protected by fencing.

ORGANIZATION OF GOVERNMENT BUREAUS.

According to the law of March 1, 1886, now in force, the administration of forests is confided to the bureau of forests, hunting, and fishing, in the department of agriculture and commerce, which last has control of all cantonal forests and a supervision over all communal and private forests. The chief of the bureau (*chef de service*) must be an expert forester, and is paid at the rate of 10 francs ($1.93) per day. He is the special adviser of the department, furnishes it with all information, documents, and reports required, drafts all necessary legislation and all orders for his subordinates, inspects the forests, and keeps the accounts of the bureau. Next in rank are six district foresters (*forestiers d'arrondissement*), one for each of the districts into which the canton is divided. They are paid at the rate of 6 francs ($1.15) per day, and cannot be absent from their post of duty for more than eight days without permission. They have charge of all works carried on by the bureau, and must inspect the forests of their district in the spring and autumn of each year, rendering an official report at the end of the year. In addition, they are required to note any neglect or infraction of the laws concerning communal and private forests. In two of the more important districts there are assistant foresters with similar functions. Finally, there are a certain number of forest-keepers (*gardes forestiers*), who must daily inspect the areas assigned to them, with special reference to the preservation of the forests. Their pay varies from $190 to $290 per annum, and they cannot be absent from their district without permission.

REVENUES AND PROFITS OF GOVERNMENT FORESTS.

The following is the balance-sheet of the bureau for 1885.

EXPENSES.

Administration	$10,020 56
Cantonal forests (clearing, fencing, surveys, &c	689 40
Nurseries, seed-beds, drains	4,237 51
Cutting and carriage of timber	8,472 70
Roads, construction, and repair	3,281 60
Floatage of timber (dikes, &c.)	160 20
Payments to holders of special rights in forests	4,651 50
Timber delivered to same	483 27
Miscellaneous	1,689 13
Extraordinary	4,512 73
Total	38,198 60

RECEIPTS.

Sales of wood, timber, &c	$62,943 32
Sales of plants	1,380 14
Sales of hay, pasture, &c	1,465 45
Miscellaneous	305 90
Total	65,194 81
Excess of receipts over expenses	26,996 21

The statement is exclusive of the communal forests, of whose operations no account is accessible.

FOREST CULTURE.

The methods followed in renewing the forests varies with the altitude, the character, and exposure of the soil, the species of plants, &c. Wherever the forest renews itself naturally, as after clearing or trimming, planting is resorted to only to fill vacant spaces. Wherever portions of the forest have been felled replanting is necessary. The shoots used are reared in the state nurseries, then transplanted, and finally, two, three, or even four years after the first transplantation are set out in the forest, usually in the spring. The plants are separated from each other 3 feet 3 inches, the rows 3 feet 3 inches, 3 feet 11 inches, or even 4 feet 11 inches. The mingling of different species is recommended.

No bounties are offered for planting, but the Confederation grants a subvention of 30 to 40 per cent. of the cost of new forests at an altitude greater than 1,000 meters (3,280 feet).

The canton has no schools of its own A forester in its employ must be a graduate of the School of Forestry attached to the Federal Polytechnic School at Zurich, and must pass an examination at Lausanne, after which he spends a year in the service under probation. The forest-keepers are only subjected to examination.

DESTRUCTION OF FORESTS.

From 1870 to 1875 the ravages of the *Bostrichus typographus* necessitated the felling of several thousand trees of the resinous genus *Picea*, growing in the uplands, and the burning of the bark. This was done so thoroughly that the insect appears to have been extirpated, and has been little heard of since 1875. The hurricanes which swept over Switzerland February 20, June 25, and December 5, 1879, were very destructive in parts of the canton. The loss in trees broken, overthrown, or uprooted was estimated at more than 150,000 cubic meters of wood.* In 1884 and 1885 premature snowfalls prostrated great numbers of young oak and other deciduous trees which had not shed their foliage. The forest bureau is doing what it can to avert similar disasters by prescribing or urging the use of hardier plants, a judicious mixture of species, and careful clearing and trimming of the trees.

RECLAMATION OF WASTE LANDS.

The increasing value of wood, the evident effect of forests on conditions of climate, and the subsidies of the Federal Government for new forests, have greatly encouraged the planting of movable soils in the

* Les Ouragans de 1879. Berne, Federal Department of Agriculture, 1880.

mountains, and of marshes in the uplands and plains. So, too, considerable tracts, exposed by the partial draining of the lakes of Neuchatel and Morat, have been wooded by the state in the expectation that the pure sand now composing the soil will be fitted in time for more useful growths. It is found that shifting sands of this description are wooded more rapidly and with the best effects by the alder and the poplar. In general, movable soils must first be stayed by *clayonnage* (interlaced branches held by posts driven into the soil), and then planted with trees which take wide and deep root, and whose dense foliage shelters the soil from heavy rains. The species recommended are the acacia, alder, maple, willow, oak, &c.

LUMBER SUPPLY.

The trade in lumber is very active in the canton, the chief markets being Geneva and France. It is shipped in all forms from sticks 50 feet or more in length, down to planks, boards, scantlings, &c. As the exportation is not permitted to exceed the natural increase of the forests their existence is not endangered. I have no statistics as to the values of different products, but the Cantonal Almanac states the total yield of all the forests as valued at $616,876 for 1885.

DEALERS IN SEEDS AND SHOOTS.

The canton grows its own shoots in the nurseries conducted by the forest bureau. They may be obtained by others on addressing the *chef du service forestier*, Lausanne, Vaud. The seeds required by the state forests are purchased of the following: Henry Keller et fils, Darmstadt, Germany; L. Nungesser, Griessheim, Germany; Schweizerische Waldsamen-Ausklenganstelt, Zernez, Grisons, Switzerland.

I forward under separate cover the following documents, all relating to the forests of the Canton of Vaud:

(1) Law concerning forests, of January 31, 1873, with the decree of May 21.
(2) Decree concerning the organization of forest administration, March 1, 1886. This decree repeals the provisions of the law of 1873 concerning organization.
(3) Regulations for the forests, subjected to federal supervision.
(4) Accounts of the department of agriculture and commerce for 1885, pages 46-81, concerning the administration of forests.
(5) Regulations for the examination of foresters.
(6) Decree concerning the examination of forest-keepers.
(7) Regulations for the service of the keepers of the forest of the Risond.
(8) Regulations for the transport of wood timber and other products on the routes from Plans to Cornilly, and from Pont de Nant to Bex.
(9) Regulations for drafting the plans of *aménagement* whatever concerns the cutting of timber, &c., of communal forests.
(10) Table for estimating the quantities of standing timber.
(11) Table for estimating cubic measures of standing wood.

LYELL T. ADAMS,
Consul.

UNITED STATES CONSULATE,
Geneva, January 27, 1887.

KNIT GOODS MANUFACTURED IN SWITZERLAND.

REPORT OF CONSUL GIFFORD.

The information contained in the accompanying report was furnished by the proprietors of an important manufactory of silk, woolen, and cotton knit goods, whence large quantities of merchandise are exported to the United States, in part directly, but for the most part through commission houses in Paris. The success of these wares in the United States has been such that the proprietors intend to establish a branch factory in that country. The necessary machinery the and operatives will be transferred to that country from the Swiss factory.

The materials used are: (1) cotton, (2) wool, (3) silk; and the mixtures are, (*a*) wool 60 per cent. and silk 40 per cent., and (*b*) cotton 60 per cent. and silk 40 per cent. There are 10 to 14 needles per inch. Medium men's shirts, 80 centimeters (31½ inches) long, weigh 3 pounds a dozen; and medium women's vests, 70 centimeters long (30 inches), 2 pounds 7 ounces a dozen.

No spinning or twisting done in the establishment. The yarn is bought ready for knitting and dyed in the best continental establishments.

The knitting-machines are of the American system, modified and constructed especially for this establishment.

A few men's shirts and 600 dozen women's and children's bodies and vests are produced each week. No drying, either on form or cylinders, is done.

PIECE-WORK.

No cutting; all goods full fashioned with selvedges. By finishing is understood at the factory in question looping, at 1.20 francs per dozen, and sewing or crocheting together, making button-holes, button-holing, mending crochet-work around neck and arms at an average price of 7.50 francs per dozen; total, 8.70 francs for "finishing," in the sense here intended. Number of button-holes, 132 per dozen.

Wages of foreman in finishing rooms, 5 francs per day; in knitting rooms, 5 francs per day; second hands, knitting rooms, 3 to 4 francs per day; hands, finishing rooms, 2½ to 3½ francs per day.

Average daily earnings of help for finishing all piece-work, 1.50 francs; knitting, 3 francs; spoolers, 1.50 francs. All female operatives are from fourteen to twenty-six years old, the average age being eighteen years.

About one thousand operatives in the work, viz, four hundred at the several factories; six hundred at their own homes.

The hours in the factories are governed by the federal law fixing the hours of labor in a week at 65, *i. e.*, eleven hours a day, with one hour off on Saturday. The large number of women and girls who work at their own homes devote most of their time to their household or school duties. During the remaining time, two to twelve hours a day, they earn about 14 centimes an hour.

The pay-roll per fortnight of twelve working days is 14,000 francs. The average cost of labor per dozen is 12 francs. The value of output per month is 111,000 francs.

The manufacturers who have furnished the above information, add:

Our strength does not lie in cheap pauper labor, but in the excellent training in needle-work our girls get at the public schools from the age of nine to fourteen years.

GEORGE GIFFORD,
Consul.

UNITED STATES CONSULATE,
Basle, January 8, 1887.

FODDER PURCHASES IN DENMARK.

REPORT OF CONSUL RYDER.

In these days when all branches of agriculture are passing through a period of very severe depression, it becomes necessary to all who are engaged in these pursuits to keep down their expenses as closely as possible in proportion to the extent of their income, on which their very existence in these critical times may almost be said to depend.

One of the most considerable items of outlay under the annually increasing development of the rearing and fattening of live stock in this country, will undoubtedly be found in the purchases of fodder; and as the farming classes for a long series of years have been in the habit of making the necessary purchases for the coming winter's supplies in the early months of spring, their attention has of late been frequently drawn, through the medium of the agricultural journals, to the losses which this mode of procedure very frequently entails upon them.

In the spring of last year some few of these farmers, finding that prices of these fodder substances were quite out of proportion to the prices of butter and fat cattle, refrained from making their customary purchases. In the different articles published in these journals it is forcibly pointed out to all concerned, that butter prices this year are still on the decline, whilst the fattening of stock has in too many cases been attended with loss, and that to continue working at a loss must inevitably lead to disastrous results where there is not a well-filled cash-box in reserve.

It is not denied that so long as high prices were obtained for the farmer's products the soil would then be capable of paying higher prices for its manuring requirements; but now that this is all changed, it becomes necessary to seek the means of reducing the prices of the foddering substances, so that the disproportion may be removed. Relief, it is said, may be found in retrenching the use of artificial fodder stuffs by making a change in the farm drift in the direction of an increased culture of roots and hay for winter use, as well as by introducing a system of stall feeding on a larger scale during the summer months. By such mode of procedure the purchase of artificial fodder materials might be materially reduced without deteriorating the soil, and in conjunction with these reduced purchases the agriculturist should at the same time strictly refrain from buying more than was actually requisite for present use.

It may be objected that as the Danish farming classes constitute but a small proportion of the consumers of these articles, any such step would have but little influence on prices. Denmark is, however, one of the largest consumers of fodder stuffs, and had its full share in enhancing the prices of these stuffs in the world's markets.

These fodder substances, when taking their nutritive value into account, are, it is true, cheaper than cereals; but this should not be the sole consideration. The question should be in what proportion does the price of the fodder stuff stand in relation to the prices of butter and fat cattle; and on this point each individual must be left to judge for himself.

Looking back to the good years when butter and fat cattle were worth from 20 to 30 per cent. more than at present, and when, even in those days, the profits of the farmers as a general rule were not exces-

sive, it is obvious that it is a hard task to avoid carrying loss at the present time.

The agriculturist is told to keep constantly in mind that as the present year does not apparently hold out any prospects of a return to high prices for the land's products, they should be specially careful to refrain from making their annual purchases of manufactured fodder materials at disproportionately high rates.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, October 19, 1886.

LAND TENURE IN JAPAN.

REPORT OF CONSUL JERNIGAN.

The revolution of 1868 effected far-reaching changes in the internal solidity of the Japanese Government. Customs that were intrenched in formidable prejudices and sanctioned by the experience of centuries were uprooted and discarded, and are now only valuable as proofs of Japan's progress in civilization. History does not record another instance where changes of such magnitude ever occurred within so short a time, and it is astonishing that it only required eleven words to destroy the ambition and power of a proud nobility that had, with imperious will, directed the destiny of Japan for more than five hundred years.

The decree abolishing feudalism was in these words: "The clans are abolished, and prefectures are established in their places."

The most important change was therefore in reference to the rights pertaining to landed property. And to show how marked was this change it is necessary to consider the tenure by which land was holden anterior to the revolution, and the privileges and rights now enjoyed in connection with such estates. Prior to the revolution the Mikado was supposed to hold the paramount title to all the land known as the Empire of Japan. All rights and titles were vested in the Mikado, and he was the sole and supreme owner. But, notwithstanding this principle of absolute ownership, which seemed to underlie and run through the laws and the system of government then prevailing in Japan, there were extensive landed estates owned, to all apparent purposes, by the feudal nobility, called Daimios. These Daimios were scattered throughout Japan, and each was supreme within his territorial limit. To illustrate the power of this nobility, each noble could issue an unlimited amount of paper currency and cause it to circulate within his little kingdom, and do such other acts as are the exclusive prerogatives of sovereigns.

The difficulty of ascertaining the precise condition of land tenure before the restoration of 1868 is made more evident by the following extract from Mr. John W. Gubbins's learned essay on the subject:

Besides the land included within the territory of each Daimiate, there were lands belonging to the imperial family; lands held by the Shogun; lands in possession of the Hatamoto, who may be described as a small feudal aristocracy forming a distinct class created by the Tokugana Shoguns, and holding petty fiefs from them; lands in possession of the Shinto and Buddhist religious establishments, and lands received by individuals from the Government in return for meritorious services. The actual ownership of land at the time we speak of (before the restoration) admits of the above

distinctions, and the occupiers of land might therefore hold it from a territorial noble or from the Emperor, from the Shoguns governments, from a Hatamot, from a Shinto or Buddhist establishment, or from any large proprietor being a grantee of land from the Government. The ordinary inference from a consideration of this state of things would be that the people who occupied the land were simply tenants. But we are confronted with the singular problem that, while tenants in point of fact, they were landlords in name, each in respect to his particular holding. The true solution of this puzzling contradiction must no doubt be sought in the internal history of the country. Before the comparatively recent times which date from the beginning of the seventeenth century, Japan had passed through many phases of government; and it is not impossible that when the feudal system was established, about 1180–'90, the existing tenure of land throughout the country in all its complicated variety of local usage was not changed, but absorbed into the new system of administration, certain modifications being introduced at a later date from time to time in different localities as occasion offered or the caprice of a feudal baron suggested.

Though landlords in name, the people may therefore be properly regarded as tenants. But very extensive proprietary rights, though falling short of complete ownership, were enjoyed by the different classes who occupied the land. The land so occupied may be divided as follows: Land in town; land in the country (Sou-chi). The holdings were again of two kinds, holdings occupied by the military class (Cuké-chi), who were exempt from taxation, and held no title-deeds; and town land (Marchijunen), as it was called, by which was understood land held by merchants and citizens who paid taxes and held title-deeds.

The country holdings comprised nearly all the land under cultivation occupied by the large class of agriculturists, who were nominally proprietors of their holdings, and were in the same position with merchants and citizens with regard to taxes and title-deeds. There was, indeed, a numerous class of smaller agriculturists who went by the name of Midzu-nomihiyakushô. These, however, were in no sense of the word proprietors, but were simply tillers of the soil who rented their holdings from the upper class of farmers or from the real owners.

The land occupied by the military class was held under the peculiar condition attaching to military service then existing in Japan; and the position of the agriculturist differed in some respects from that of the tax-paying classes who occupied town holdings. But the proprietary rights in each case were much the same. Holdings descended from father to son, in accordance with the law of primogeniture, the effects of which in Japan were sensibly modified by the law of adoption peculiar to the country, or, failing direct heirs in the same family, the right of subletting, subject to the approval of the real owner, was acknowledged and fully exercised, and fixity of tenure virtually assured. But, though the tenant was, therefore, practically free from disturbance in his holding, and had a tenant right good as against all other people, he possessed only a modified tenant right as against the real owner. The latter reserved to himself the right, rarely, it is believed, exercised, of re-entering upon the land at will, and in such cases of disturbance the occupant received some sort of compensation by the grant of other land (which was usually of an inferior kind) in the vicinity.

There were other restrictions to which the occupiers of land were subject. The agriculturist could not combine the profession of merchant with that of farmer, and he was not free to cultivate his land as he pleased. He was limited to certain methods in the rotation of crops, and was usually prohibited from growing anything but rice and wheat, except in small quantities for private consumption. (This restriction was introduced and maintained on the ground that there might otherwise be an insufficiency of food for the wants of the country.) Farmers, merchants, and citizens were alike precluded from entering into any transactions in regard to land occupied by the military class, and a reciprocal prohibition was enforced in the case of the latter. This mutual disability, which extended to house property, existing between the military class on the one hand and the three other classes of people on the other, is exemplified in the division of all castle towns in Japan into two quarters, the "Shizoku" quarter and the commercial or industrial quarter, and owed its origin, doubtless, to the important distinction that the "Cuké-chi," a land assigned to the military class, was exempt from taxation, while land held by the other class was not.

Another and seemingly a very important restriction by which the tenant-right of occupiers of land was curtailed was the prohibition, enforced also in the case of house property, of the sale or free gift of land by the tenant in occupation. But the right of mortgage was, strangely enough, allowed, and there is abundant evidence that, under cover of this privilege, the sale and transfer of land were matters of common occurrence, the terms used to signify these transactions being either "to mortgage" or "to give in pledge."

Of late years so much laxity appears to have attended the enforcement of this prohibition that in many cases the transfer of land was not questioned so long as the

actual words "sale" or "free gift" did not appear in the wording of the deed of transfer.

In the form of a deed of transfer of town land in general use during the fifty years preceding the restoration space is left for the actual price paid for the holding, and the terms used to indicate the nature of the transaction are simply "In consideration of the sum above mentioned, I hand over to you the aforesaid lot of ground," &c., "and I hereby guarantee to secure you against interference on the part of any other person," &c.

It is clear, therefore, that the holders of land in Japan prior to the restoration in 1868 possessed very extensive proprietary rights in regard to their holdings, limited by the restrictions which have been mentioned. But it must not be forgotten that under the feudal system—the keystone of which, so to speak, in this country was the absolute subservience in everything of the subject to his feudal lord—the occupiers of land owned by the territorial nobility were virtually at the mercy of their landlords. Side by side with the rights of which we have spoken came the rights of the feudal proprietor, which were backed by the weight of centuries of traditionary custom which knew no limit, and against which there was no appeal.

Such were the rights pertaining to landed property at the commencement of the revolution of 1868. During the autumn of that year the Shogun was defeated and the Mikado came into possession of actual power. He was now the *de facto* as well as *de jure* head of the Japanese Government, and the four great Daimios, who were most prominent and influential in bringing about the revolution and most powerful in supporting the cause of the Mikado, proved themselves fully equal to the occasion, and when the office of Shogun was declared abolished, these four Daimios united in a memorial surrendering all of their territorial and feudal privileges to the Mikado.

In view of the importance of the subject the memorial is given in full, as follows:

Joint memorial of Mosi, Shimauzu, Naberlinna, and Gamanouch, Daimios of the four classes of Chôshin, Satsuma, Hizen, and Tosa.

Your servants venture to address your Majesty with profound reverence. Two things are essential to the Mikado's administration. There must be one central body of government, and one universal authority, which must be preserved intact. Since the time when your Majesty's ancestors founded this country, and established a basis of government, all things in the wide expanse of heaven and all things on earth to its farthest limits have belonged to the Emperor from generation to generation. This is what is known as "one central body of government." And the sole power of giving and of taking away, which renders it impossible for the nobles to hold the people in subjection by virtue of their rank, or to deal with the smallest piece of ground at their pleasure, or to seize and treat despotically any single individual of the humbler classes. This is understood by the term one universal authority.

The administration of the emperors was conducted entirely on this principle. The emperors conducted the Government in their own persons, and consequently the name and reality of power existed side by side, and the nation was tranquil and contented. But from the time of the Middle Ages the administrative system became lax, and the authorities of the emperors became a plaything. All men fighting for power, changes of government followed each other in rapid succession until half of the country fell into the hands of men who dealt with the people and the land at their pleasure; and in the end a state of things was reached where there was nothing but open contention and acts of violence. The Government, having no body of administration to protect and no effective power, were unable to control matters. Everywhere men of influence but of unprincipled character took advantage of the existing disorder to promote their own interests, and the weak became food for the strong.

The most powerful barons took possession of fourteen or fifteen provinces, until those of less influence collected bodies of armed retainers to the number of 5,000 and 6,000. The Tokugana administration seized lands and people arbitrarily wherever it thought fit, and by this means extended its influence. Finally, the Mikado's Government lost all real authority and was entirely dependent on the views of the Shôgunate. The boundless despotism of the Shôgunate lasted for over 600 years, and during this interval violent dealings with the land and with the people were carried out by stealth under the pretense of the imperial authority. And these acts were rendered possible owing to the existence of the people who could not dissociate themselves from the time-honored observances of the past, and were still guided by the

reverence due from a subject to his sovereign and by a proper sense of the relations which should exist between high and low.

The ancient family of the Tokugana dynasty of Shoguns and their relatives held half of the country; as a natural consequence fresh families were constantly springing up, and it became a precedent, founded on long custom, which has lasted up to the present day, for these numerous branches of the Tokugana family to take no heed of the question as to whether their lands and subjects had been received in grant from the proper government or not. It was commonly said by members of these families, "These possessions of ours were gained by the military prowess of our ancestors." But there is little doubt that these ancestors had originally raised forces, invaded the imperial storehouses, and laid forcible hands on the treasures contained, and that they braved the penalty of death in the execution of their designs.

Those who break into storehouses are commonly termed robbers, but no suspicion was attached by the nation to those who seized upon the land and the people. It is terrible, indeed, their confusion of ideas between right and wrong.

It is now sought to establish an entirely new form of government. Care must, therefore, be taken to preserve intact both one central body of government and one universal authority.

The land in which your servants reside is the land of the Emperor, and the people whom they govern are his subjects. Neither the one, therefore, nor the other can belong to your servants.

Your servants accordingly beg respectfully to surrender to your Majesty the registers of the population, and beg your Majesty to deal with everything as you may think fit; giving what should be given and taking away what should be taken away. They entreat your Majesty to issue such imperial decrees as you may deem necessary with respect to the lands and the people of the four clans represented in this memorial, and to make such changes as your Majesty may think proper. They also beg that all laws, decrees, and military regulations, extending even to rules respecting military dress and accouterments, may be issued by the central government, so that all matters of state, both great and small, may be decided by one and the same authority. In this way both name and reality will be secured, and this country will be placed on a footing of equality with foreign powers.

Your servants share the responsibility which the present critical condition of affairs entails upon the Mikado's government. It is this which has led them to present their foolish views for the consideration of your Majesty.

This memorial supports the doctrine that the title to all the land embraced within the Empire of Japan was vested in the Mikado, and admits that he had been illegally divested of it.

It was, however, some time after the memorial had been presented before it became known what policy the Government intended to follow, and the first thing that foreshadowed what this policy in reference to landed property would be was an act to place all land, as far as possible, upon an equal footing.

Another important act made known in March, 1868, rendered liable to taxation all land held in grant from the Government, and in the autumn of the same year the restrictions which have been mentioned as to business transactions between certain classes were removed, and in 1871 all such restrictions were wholly removed. Other regulations followed in rapid succession, each being further removed than the other from the principles of feudalism and aimed with greater force and precision at it, and pervaded with more equity and justice. Among the most important promulgated at this time was one requiring the Government to compensate individuals for land whenever taken from them for public purposes and fixing the rate of compensation according to the value as entered in the title deed. When the year 1872 commenced the Government had so legislated that the position of all holding land was clearly defined and there was no longer any doubt as to the extent of the rights and privileges enjoyed by those in the possession of land.

Subsequent legislation has tended to enlarge and define, with more exactness, such privileges without abridging the equitable principles which now appear to be sought after as the basis for all Japanese laws, and which are conspicuous in the later notifications from the Imperial Government.

Without recording here any of these notifications, which would only be confirmatory of what has just been stated above, it is hoped that this brief synopsis of the great change in the internal polity of a Government in reference to one of the most intricate and complicated subjects known to the law, will not prove uninteresting, and a nation that can within the short period of twenty years abolish a heathen and sanguinary code and enact in its place one with civilization for its basis is an unanswerable argument in favor of the contention that there is with the Japanese an element of reserved strength which will elevate their country to still higher planes of progress and renown.

T. R. JERNIGAN,
Consul.

UNITED STATES CONSULATE,
Hiogo, Japan, January 28, 1887.

AMERICAN TRADE WITH JAPAN.

TRANSMITTED BY MINISTER HUBBARD.

[From the Japan Gazette, Yokohama, January 26, 1887.]

The rapidity with which Japanese trade with the United States is increasing, and the future importance of the American market to Japanese industries, are highly appreciated by the Japanese people, who have lately shown much energy in promoting commercial relations with their great neighbor. In the latest issue of the Tokyo Keizai Zashi a suggestion of a reciprocal nature is made, which, if adopted, is thought would be the means of further increasing the import and export trade with the United States. Japan is urged to ask America to abolish the import duty on silk manufactures entering the country from Japan, but in doing so the latter is first to show her good will by exempting kerosene oil from the payment of duty altogether. This latter step is to be taken in order to induce the United States Government to concede to Japan's desire by way of reciprocity. It says: The exportation of our manufactured silk goods to the United States has made marked progress of late; and it is a notable fact that the activity that now prevails at Ashikaga, Kiribu, Nishijin and other weaving districts is mainly attributable to the increasing exportation of silk stuffs produced there. Our Government must not, therefore, miss the opportunity thus presented for cementing our commercial relations with America. The policy of the United States of imposing protective duties on imported European goods, which are of excellent quality, may, in a manner, be reasonable, though peculiar in the abstract, but no one can discover the reason why protective duties should be imposed on goods imported from an infant country like Japan. America can, in fact, produce better articles than Japan. Japanese-made handkerchiefs and neck-ties, for example, are only imitations of American goods, and as Japanese artisans have but imperfect skill, their manufactures are naturally inferior in brilliancy and color to American-made goods. It is strange, therefore, that a country commanding superior skill should impose protective duties on inferior goods produced in another country. America, however, already allows our raw silk and tea to be imported without the payment of duty, and we must, in consequence, do something in return for the favor the United States will confer by exempting Japanese silk stuffs from the present import duty of 50 per cent. This can be best done by abolishing the duty on kerosene oil. This oil now constitutes one of the imported articles most generally used; therefore, by allowing it to be imported free of duty the people of Japan will be able to procure it at a reduced price, and will feel as grateful as if an article of food had been relieved from a Government tax. We need hardly say that the benefits to be derived from the step suggested will be enjoyed by both Americans and Japanese. The Government should, therefore, propose to the United States Government that as we are willing to abolish the duty on kerosene oil imported from their country, they ought to reciprocate and abolish all duties on Japanese manufactured silks entering America. If the negotiations succeed in bringing about this end no small benefit will result to the two countries. Japan is a silk-producing country, and thoughtful people hope Ashikaga, Kiribu, or Noshijin will be the future Manchester or Lyons of Japan. Hitherto the fluctuation in prices and the consequent disturb-

ances in the market have prevented the development of the silk industry, but now matters have changed, the economical affairs of the country are in good order, and the industry has commenced to improve. It is therefore gratifying in the extreme to see at this juncture the exportation of manufactured silk goods increasing; and if the duty of 50 per cent. on this class of articles imported into America be abolished, a great impetus will be given and the future prosperity of the Japanese industry secured. The import duty in America does not, however, give so much trouble as the tedious formalities attending the levying of the tax, which are indeed almost unendurable to Japanese merchants, who often lose good opportunities of disposing of their goods by the delay occasioned. Moreover, if the United States wishes to stand as a commercial country in the world she had better count Japan as one of the producing districts supplying her market. Tokio freely admits raw and manufactured silk from Maebashi, Fukushima, &c., considering those places as the producing districts for her market, from which latter she distributes the goods throughout the Empire. The United States should be to Japan what Tokio is to Maebashi, Fukushima, &c. From the above observations it is needless to say that little consideration is required to perceive the mistake the United States Government makes in levying protective duties on Japanese imported goods.

TARIFF OF NEW SOUTH WALES.

REPORT OF CONSUL GRIFFIN.

The new tariff act of New South Wales, which awakened so much discussion throughout Australia, was passed by the colonial parliament on the 28th of September last.

Although the custom dues have been largely increased and one hundred and sixty articles added to the list of specific duties and an ad valorem tax of 5 per cent. levied upon all articles not included in the list, the friends of the measure stoutly maintain that the new law is intended for revenue only and not for protecting home manufactures.

Many changes have been made in nearly all kinds of goods and wares imported from the United States. It will be seen from the act, a copy of which is hereto annexed, that the duty on dressed timber is 3*s.* (73 cents) per 100 superficial feet, instead of 2*s.* (48 cents), as formerly. Rough or undressed timber is taxed at 1*s.* 6*d.* (36 cents) per 100 superficial feet. There can be no doubt that these heavy duties are having an unfortunate influence on the imports of lumber from the United States, inasmuch as they will throw a large portion of the demand on the native hard woods, which are not so well suited for building purposes.

The Australian hard woods are, with few exceptions, very brittle at heart, and even when this is not the case they are always very difficult to work. Palings pay a duty of 1*s.* (24 cents) per 100 feet; laths, 9*d.* (18 cents) per 100 feet; doors, 2*s.* (48 cents) each.

Resin and pitch, which hitherto have been duty free, are now charged 2*s.* (48 cents) per barrel, a heavy duty on goods the value of which is so small in comparison with their bulk.

Besides the specific duties, the 5 per cent. ad valorem duty levied on a very large number of articles which affect American trade in several directions will operate much more injuriously than the amount would seem to indicate, for when competition is carried on against local industry an addition to the cost, if only 5 per cent., will often turn the trade against imports. This will probably be most apparent in such articles as carriages, buggies, carriage-makers' materials, wagons, carts, furniture, wooden ware, machinery, &c.

EFFECT OF TARIFF ON AMERICAN TRADE.

When the new duties were imposed there were large stocks of nearly all kinds of American goods on hand, which importers have since been working off.

The present prevailing depression of trade has, however, prevented the 5 per cent. advance being obtained, and, indeed, in many kinds of goods, lower prices have been taken in order to force sales.

For instance, before the duties were imposed, chairs, tables, and other American furniture, brought prices nearly 20 per cent. higher than at present. Plaster and plaster of Paris, which now pay a duty of 2*s.* (48 cents) per barrel, were formerly admitted free.

Resin, in spite of the extra duty, sells for fully $2.50 per ton less than before the tariff went into operation. A number of other articles have declined in price; but this fact is mainly due to the stagnation in trade, which, it is believed, the new tariff will not help; still, it will require further time to tell the exact effect of the duties generally.

The furniture trade has been depressed in Sydney for many months, but there has been no perceptible decline in the prices of American furniture.

The colonial furniture-makers labor under many disadvantages in competing with the imported articles. For instance, none of the establishments have as yet introduced the right kind of machinery for the manufacture of fine work, and nearly all their products which have come under my observation are much heavier and more clumsily put together than the American ones.

The cost of furniture at retail here is usually two or three times as much as in the United States. The value of the imports of American furniture into New South Wales last year amounted to $83,210, against $56,412 for the year previous, a gain of $26,798.

The imports of furniture from Britain during 1885 amounted to $645,481, against $712,113 for 1884, showing a decline of $66,632 instead of an increase, as from America. The imports of furniture from the neighboring colony of Victoria also declined during the same period from $156,000 to $111,355.

I am wholly unable to account for the continued importation of furniture from Britain and Victoria except on the ground that the people have become accustomed to associate strength with weight, and care very little for the cheaper and more tastefully executed article from America.

The coach-makers here complain that they are severely handicapped by the tax on carriage-makers' materials.

The duty on paints and colors ground in oil is £3 ($14.60) per ton. Oil has to pay a duty of 6*d.* (12 cents) per gallon. Putty, 2*s.* (48 cents) per cwt. Turpentine, 1*s.* (24 cents) per gallon. These duties it is believed will severely handicap the paint trade.

The duty on oil is regarded by the manufacturers as very unjust, as many of the colors used in paint require from 25 to 35 per cent. of oil. The tax on kerosene is believed to be levied for the purpose of protecting the manufacture of that article out of the state product of the colony.

The oil, however, manufactured here is nothing like as good as that imported from America, but so long as the tax lasts there is no doubt that the people will be tempted to buy the home-made article.

At present about one-half the quantity of kerosene consumed in the colony is manufactured here. Although the American imports of kero-

sene into New South Wales show no diminution, it is certain if the tax were repealed that the quantity of the American imports would be more than double what it is at present.

Oatmeal, which heretofore was admitted free, has to pay a duty of 2*s.* (48 cents) per cwt. This tax is sufficiently heavy to prohibit the importation of oatmeal from the United States, and also that from New Zealand, both of which are of much better quality than can be produced in Australia. Of course the millers will import oats and prepare and grind them here, but the tax, it is said, will be for the benefit of the millers, and not for the government or people.

The duty on biscuits (crackers) is now 2*d.* (4 cents) per pound, just double the former rate.

The government expects to derive an income of $10,000 or $12,000 per annum from this source of revenue, but their expectations may not be realized, as the people will, in all probability, put up with an indifferent article made here.

Salt is taxed at the rate of £1 ($4.86) per ton. This is regarded as an enormous duty on an article costing less than $2 per ton in Britain and the United States. It is said that the export trade in hides will suffer also from the tax on salt, as the cost of that article is a very important factor in preparing them for market.

No distinction is made between the various kinds of salt, as in the other colonies. For instance, rock salt is admitted free of duty in Victoria, South Australia, and Western Australia, whilst in Queensland no duty is charged upon salt of any kind.

In regard to the 5 per cent. ad valorem tax on machinery, much dissatisfaction is expressed, especially as the cost of American machinery hitherto has been high, and the people prefer it to any other, and it is daily becoming more and more popular.

It is gratifying to note that the American locomotives which have recently been introduced into Australia have given very general satisfaction, and it is not unreasonable to expect that they will soon supersede all others. Until very recently the Australians seemed to think that the old-fashioned English locomotive built upon the lever motive principle was the perfection of mechanical ingenuity, and all the improvements made by the Americans during the last forty years in locomotives were wholly ignored. Now the people are beginning to understand that the English engine is too heavy and clumsy, and that it must give way to the American one.

It has been noticed that the English locomotive wears out too rapidly, and does great injury to the roadway.

I learn from a recent report of the commissioner of railways in New Zealand that the American locomotives in that colony have more than realized what was expected of them. The report says:

> The American engines have proved themselves to be both good and economical, and for attention to detail in design and general excellence in workmanship they stand out first in our catalogue of locomotives. American engines I thoroughly believe to be more suited for our lines than anything we can get in England.

The American engines in New South Wales are quite as well appreciated as in New Zealand, and Mr. Thomas Higinbotham, engineer in chief of the railways in Victoria, is a staunch advocate for their use in that colony.

In a recent report he says:

> I did not go to the States at all prepossessed in favor of American engines, but what I saw there satisfied me that for the light railroads of this country they are better adapted than any other kind.

American machinery and appliances for bridge building are also likely to supersede all others. The contract for the construction of the new railway bridge across the Hawkesbury River in New South Wales was awarded to the Union Bridge Company of New York. The construction of this bridge, on account of the great depth of foundation, involves some of the most difficult questions known to science, and the skill thus far displayed in its construction, and the rapidity with which it has been pushed forward, have attracted the attention and admiration of every one interested in the prosperity of the colony.

The English engineers in building bridges still adhere to the practice of riveting the pieces, instead of fastening them together with pins as in America. The former takes about as many weeks as the latter does days, and does not give half the satisfaction. Another difference between the two methods of bridge building is that the Americans make bridges in workshops and spend little time in putting them up, whereas the English do most of their work on the banks of the stream where the bridge is wanted, but where they have not the steam riveters and other labor and time saving appliances to be found in the shops.

There is no change in the tax on dried or preserved fish, the duty being 1*d.* (2 cents) per pound. The importation of California salmon into Australia now forms a very important industry, and as no other tinned fish enters into serious competition with it the industry should soon swell to very large proportions. The value of the salmon imports to Sydney alone amounts to $250,000 per annum.

All the large packing canners of the Pacific coast, including those of the "Cutting Company" and "W. T. Coleman & Co.," are represented here by special agents, and strong efforts are being made to extend their trade not only in New South Wales but throughout Australia. Tinned fruit is taxed at 2*s.* (48 cents) per dozen quarts. There is little or no opposition to the American fruits. The English preserved fruit is generally put up in bottles and does not enter into competition with either the colonial or American fruit. Some of the colonial canners have imported machinery for putting up fruit from the United States, but they have as yet made little progress in their work. The tins are heavy and clumsily put together, and have not the attractive labels of the American ones. Moreover their fruit is loosely packed and is wanting in freshness and flavor. The American tins are always well filled with rich, ripe fruit, in heavy sirup, perfectly fresh, and well flavored.

The tax on fancy or scented soap is 1*d.* (2 cents) per pound, and other kinds of 2*s.* (48 cents) per cwt. The American toilet or scented soap is by far the best in use, and when its superiority becomes better known the demand for it will be much greater than at present. Refined sugar pays a tax of 6*s.* 8*d.* ($1.62) per cwt.

Several of the colonial refiners make an excellent article of white granulated sugar, and which is now preferred to that made abroad, but none of the refineries have the necessary machinery for making cube or block sugar, and the bulk of the cubes used here is imported from America.

Sarsaparilla pays a duty of 4*s.* (96 cents) per gallon if it contains no more than 25 per cent. of proof spirit. If more than 25 per cent. the tax is 12*s.* ($2.88) per gallon.

Perfumed spirits, like "Florida water" and "bay rum," pay 15*s.* ($3.65) per gallon.

The customs refuse to admit a number of patent medicines, such as "Ayer's Ague Cure," at less than 12*s.* ($2.88) per gallon. "St. Jacob's Oil" is taxed at 9*d.* (18 cents) per pint.

The Australian trade with America, while very small when compared to that with Great Britain, is certainly larger than that with all other countries combined, with the exception of Britain and her possessions.

The total value of American imports to all the Australian colonies for the year ending June 30, 1886, was nearly three times the amount of the exports from Australia, the exact figures being, viz: Imports from the United States, $10,981,915; exports to the United States, $3,859,360.

It will be seen from this exhibit that we export to Australia $7,122,555 worth of goods more than we receive from her, or in other words our Australian exports are nearly 300 per cent. more than our Australian imports—nearly 70 per cent. of the total volume of the trade.

There is probably no other country with which we have business transactions in which the trade is so much in our favor.

The American duties on Australian raw products, and especially on wools which cannot be grown in the United States, have heretofore been the principal obstacles in the way of extensive trade relations between the two countries, and now other obstacles have been added by the new customs duties of New South Wales.

It is true enough that the latter duties are not in any sense discriminating, for they apply with equal force to the imports from Great Britain and other countries, as to the United States. Nevertheless, the great body of the people appear to be very bitterly opposed to the new tariff, and it is thought that it will either be repealed or greatly modified immediately upon the assembling of parliament.

It is certain that the bill only became a law by a very small majority and against the united opposition of nearly every daily newspaper and public journal in the colony. The tariff has been very injurious to the shipping of Sydney. Ship-owners in Queensland and elsewhere, who were in the habit of having their vessels built here, now send their orders to Britain. The tax on articles required in the construction of vessels, such as timber, nails, paint, varnish, &c., unquestionably operates against the industry.

The intercolonial trade is also seriously affected, and Sydney, the chief metropolitan city of Australia, appears to be the greatest sufferer. It would, perhaps, be unjust to attribute the present depression wholly to the action of the tariff, but there is no doubt that it has failed to remedy the evil.

Upon the publication of the New South Wales customs returns for the year 1886 I shall be able to point out more fully than at present the effects of the tariff upon the trade relations of the colonies.

CANADIAN INFLUENCE IN AUSTRALIAN TRADE.

In the mean time it will be well enough for the American exporters to bear in mind that very strong efforts are being made by the government and people of Canada to secure to that country no inconsiderable portion of the Australian trade, and especially in those lines of goods usually exported from the United States. The Government of Canada has recently appointed Mr. Alex. Woods their agent-general in Australia. The exact character of his duties have not yet been fully explained, but it has been announced that he will open an office and warehouse in Sydney, in which he will exhibit samples of goods from over two hundred Canadian manufactories.

The agent general claims that Canada can supply Australians with all the goods except resin and turpentine now imported from the United States, and that in some lines Canada will not be at a disadvantage

even as regards Great Britain, inasmuch as Canada has decided to grant drawbacks to manufacturers equal to the duties they may have to pay upon importations of raw materials upon furnishing proof of its being imported for manufacturers.

In other words, the Government arrangements will practically permit Canadian manufacturers to carry on their manufactures for the Australian market in bond. The method of work proposed by the agent-general is as follows: The goods will be put in the Canadian Government warehouse and be made accessible to buyers. The local merchants will sell on commission, subject to the approval of the manufacturer, who will have to pay the cost of their goods to the port of shipment in advance, the remainder of the expense of transportation being free. In connection with this subject it has been mentioned that the Canadian Pacific Railway Company will charter vessels on the Pacific pending the inauguration of the regular steamship service proposed by them.

It has also been announced that the agent-general has been instructed to give freight rates from the St. Lawrence ports to Australia during the summer, so that there will be no need to rely upon shipments either from Boston or New York. It is exceedingly doubtful whether any of the plans proposed by the agent-general will be successful, and I shall at an early date have occasion to refer to them again.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, December 23, 1886.

Table of customs duties of the colony of New South Wales.

[Vic., No. 16, 1886.]

Articles.	English money.	United States money.
	s. *d.*	
Acid:		
Acetic.....per gallon..	2 6	$0 60
Tartaric. (See Bicarbonate of soda.)		
Advertising matter. (See Paper.)		
Aerated and mineral waters, pints and smaller quantities.....per dozen..	0 6	12
Ale. (See Beer.)		
Aromatic vinegar. (See Cordials.)		
Arrowroot.....per pound..	0 1	2
Bacon, partially cured or green.....do....	0 2	4
Bags:		
Calico.....per cwt., gross..	3 4	80
Paper, plain.....do...	3 4	80
Balm syrups. (See Cordials.)		
Baking powder yeast, custard, and egg powders, and self-raising flour.per pound.	0 1	2
Barley—pearl, prepared, or patent.....do....	0 1	2
Bay rum. (See Spirits, perfumed.)		
Beer, ale, porter, spruce or other beer, cider and perry:		
In wood or jar.....per gallon..	0 6	12
In bottle.....do....	0 9	18
For six reputed quarts or twelve reputed pints.....do...	0 9	18
Bicarbonate of soda and tartaric acid.....per pound..	0 1	2
Biscuits, other than ship.....do....	0 2	4
Bitters:		
Containing not more than 25 per cent. of proof spirit.....per gallon..	4 0	97
Containing more than 25 per cent. of proof spirit.....do...	12 0	2 92
Blasting powder.....per pound..	0 1	2
Blue.....do....	0 1	2
Bolts, spikes, nuts, rivets, screws—pointed or flat bolt-rings and washers—plain or galvanized metal.....per cwt..	2 0	48
Bolt-rings. (See Bolts.)		
Butter and lard.....per pound..	0 1	2
Cakes.....do....	0 2	4
Calico bags. (See Bags.)		

Table of customs duties of the colony of New South Wales—Continued.

Articles.	English money.	United States money.
	s. *d.*	
Candles per pound, or reputed package of that weight, and so in proportion for any such reputed weight ..... per pound..	0 1½	$0 03
Cards. (See Playing cards.)		
Carraway seeds ..... do ..	0 2	4
Cement ..... per barrel..	2 0	48
Cheese ..... per pound..	0 2	4
Chicory, dandelion, and taraxacum:		
Raw or kiln-dried ..... do...	0 3	6
Roasted, ground, or mixed with any other article ..... do....	0 6	12
Chillies ..... do...	0 2	4
Chocolate, plain, or mixed with any other article, and chocolate creams ..... do...	0 6	12
Chocolate creams ..... do ..	0 6	12
Cider. (See Beer.)		
Cigars ..... do....	6 0	1 45
Cigarrettes (including wrappers) ..... do....	6 0	1 45
Citronade. (See Cordials.)		
Cocoa:		
Raw, without allowance for husks or shells ..... do....	0 3	6
Prepared, paste, or mixed with any other article ..... do	0 6	12
Cocoa-nut in sugar ..... do....	0 2	4
Coffee:		
Raw ..... do....	0 3	6
Roasted, ground, or mixed with any other article ..... do....	0 6	12
Comfits ..... do....	0 2	4
Condensed milk. (See Milk.)		
Confectionery ..... do ...	0 2	4
Cordage ..... per ton..	40 0	9 73
Cordials:		
Not containing spirit, balm, sirups, fruit essences, lime fruit and lime juice, cordials, citronade, raspberry vinegar, aromatic vinegar, raspberry and strawberry acids:		
Pints and smaller quantities ..... per dozen..	0 9	18
Reputed quarts ..... do....	1 6	36
Corn flour ..... per pound..	0 1	2
Cream tartar ..... do....	0 1	2
Custard powder. (See Baking powder.)		
Dandelion. (See Chicory.)		
Dates ..... do....	0 1	2
Doors:		
Iron safe ..... per cwt..	3 0	73
Wood, not otherwise charged ..... each..	2 0	48
Dynamite and lithofracteur ..... per pound..	0 1	2
Effervescing powder and powders ..... do ..	0 1	2
Egg powder. (See Baking powder.)		
Essences:		
Flavoring and fruit containing not more than 25 per cent. of proof spirit ..... per gallon..	4 0	97
Containing more than 25 per cent. of proof spirit ..... do....	12 0	2 92
Extract of meat ..... per pound..	0 2	4
Farinaceous foods, prepared, not being wheaten flour or oatmeal ..... do....	0 1	2
Fish, dried, preserved, or salt ..... do....	0 1	2
Fish paste ..... do....	0 1	2
Florida water. (See Spirits, perfumed.)		
Flour, self-raising. (See Baking powder.)		
Foods, milk ..... do....	0 1	2
Fruits, boiled or in pulp, partially preserved, with or without sugar ..... do....	0 1	2
Fruits, bottled:		
Reputed quarts ..... per dozen..	2 0	48
Reputed pints and smaller quantities ..... do ...	1 0	24
Dried fruits ..... per pound..	0 2	4
Fruit essences. (See Cordials.)		
Fruit salts ..... do....	0 2	4
Fruits, candied ..... do...	0 2	4
Galvanized iron—in bars, bundles, sheets, or corrugated ..... per ton..	40 0	9 73
Galvanized manufactures ..... do....	60 0	14 60
Game. (See Meats.)		
Gasoline ..... per gallon..	0 6	12
Gelatine, glue, and size ..... per pound..	0 1	2
Ginger, dried or green ..... do....	0 1	2
Glucose, liquid and sirup ..... per cwt..	3 4	81
Glucose, solid ..... do....	5 0	1 22
Glue ..... per pound..	0 1	2
Groats, patent ..... do....	0 1	2
Ham ..... do....	0 2	4
Honey ..... do....	0 1	2
Hops ..... do....	0 6	12
Iron chains, not otherwise exempted ..... per ton..	20 0	4 86
Iron, galvanized, in bars, bundles, or sheets, or corrugated ..... do....	40 0	9 73

Table of customs duties of the colony of New South Wales—Continued.

Articles.	English money.	United States money.
	s. d.	
Galvanized manufactures.....do....	60 0	$14 60
Iron or steel wire.....do....	20 0	4 86
Isinglass.....per pound..	0 1	2
Jams, per pound, or reputed package of that weight, and so in proportion for any such reputed weight.....per pound..	0 1	2
Japan wax. (See Wax.)		
Jellies, per pound, or reputed package of that weight, and so in proportion for any such reputed weight.....per pound..	0 1	2
Lard.....do....	0 1	2
Laths. (See Timber.)		
Lead, sheet, roll, or pipe.....per ton..	40 0	9 73
Lime-fruit cordial. (See Cordials.)		
Lime-juice cordial. (See Cordials.)		
Limes.....per cwt..	2 0	48
Liquorice and liquorice paste.....per pound..	0 2	4
Lithofracteur.....do....	0 1	2
Lozenges of all kinds.....do....	0 2	4
Macaroni and vermicelli.....do....	0 1	2
Maizena.....do....	0 1	2
Malt.....per bushel..	0 9	18
Meat extract.....per pound..	0 2	4
Meats, poultry, soups, game, potted, paste, or preserved, in tins or jars, not otherwise charged.....per pound..	0 1	2
Methylated spirit.....per gallon..	2 0	48
Milk, condensed or preserved.....per pound..	0 1	2
Milk foods.....do....	0 1	2
Mineral waters. (See Aerated waters.)		
Mineral wax. (See Wax.)		
Mushrooms, preserved. (See Vegetables.)		
Mustard.....do....	0 1	2
Nails.....per ton..	40 0	9 73
Nuts, edible, of all kinds, except cocoanuts.....per pound..	0 1	2
Nuts, metal. (See Bolts.)		
Naphtha and gasoline.....per gallon..	0 6	12
Oatmeal.....per cwt..	2 0	48
Oilmen's stores:		
Sauces and pickles, quarts.....per dozen..	1 0	24
Sauces and pickles, pints and smaller quantities.....do....	0 6	12
Oils, except black, cocoanut, and sperm.....per gallon..	0 6	12
Oils in bottle, except essential oils:		
Reputed quarts.....per dozen..	1 6	36
Reputed pints.....do....	0 9	18
Reputed half-pints and smaller sizes.....do....	0 6	12
Opium, and any preparation or solution thereof, not imported for use as a known medicine.....per pound..	20 0	4 86
Paints and colors ground in oil.....per ton..	60 0	14 60
Palings. (See Timber.)		
Paper:		
Brown.....per cwt..	3 4	81
Advertising matter (circulars, posters, and notices), printed or lithographed, for distribution or for sale.....per pound..	0 1	2
Paper bags. (See Bags.)		
Paraffine wax. (See Wax.)		
Patent barley. (See Barley.)		
Pearl barley. (See Barley.)		
Pepper.....do....	0 2	4
Perfumed spirit. (See Spirits, perfumed.)		
Perfumed water. (See Spirits, perfumed.)		
Perry. (See Beer.)		
Pickets. (See Timber.)		
Pickles. (See Oilmen's stores.)		
Pitch, tar, and resin.....per barrel..	2 0	48
Plaster and plaster of Paris.....do....	2 0	48
Playing cards.....per dozen packs..	3 0	73
Porter. (See Beer.)		
Poultry. (See Meats.)		
Powder:		
Sporting.....per pound..	0 3	6
Blasting.....do....	0 1	2
Effervescing.....do....	0 1	2
Prepared barley. (See Barley.)		
Preserved milk. (See Milk.)		
Preserved mushrooms. (See Vegetables.)		
Preserved tomatoes. (See Vegetables.)		
Preserved vegetables. (See Vegetables.)		
Preserves.....do....	0 1	2
Prunes.....do....	0 2	4
Putty.....per cwt..	2 0	48
Raspberry acid. (See Cordials.)		

Table of customs duties of the colony of New South Wales—Continued.

Articles.	English money.	United States money.
	s. *d.*	
Raspberry vinegar. (See Cordials.)		
Resin ..... per barrel..	2 0	$0 48
Rice ..... per ton..	60 0	14 60
Rice, flour or ground ..... per pound..	0 1	2
Rivets. (See Bolts.)		
Rope (gross) ..... per ton..	40 0	9 73
Rum, bay. (See Spirits, perfumed.)		
Safes (iron) and iron doors ..... per cwt..	3 0	73
Sago ..... per pound..	0 1	2
Salt ..... per ton..	20 0	4 86
Saltpeter ..... do....	20 0	4 86
Salted vegetables. (See Vegetables.)		
Sarsaparilla:		
Containing not more than 25 per cent. of proof spirit ..... per gallon..	4 0	97
Containing more than 25 per cent. of proof spirit ..... do....	12 0	2 92
Sashes ..... each sash..	2 0	48
Sauces. (See Oilmen's stores.)		
Screws, metal. (See Bolts.)		
Semolina ..... per pound..	0 1	2
Sheep-wash tobacco ..... do....	0 3	6
Sherbet ..... do....	0 1	2
Shingles. (See Timber.)		
Shot ..... per cwt..	5 0	1 22
Shutters (wood) ..... each..	2 0	48
Size ..... per pound..	0 1	2
Snuff. (See Tobacco.)		
Soap:		
Toilet, fancy and scented ..... do....	0 1	2
Other than fancy or scented ..... per cwt..	2 0	48
Soda crystals (gross) ..... per ton..	20 0	4 86
Soups. (See Meats.)		
Spices ..... per pound..	0 2	4
Spikes. (See Bolts.)		
Spirits:		
On all kinds of spirits imported into the colony the strength of which can be ascertained by Sykes's hydrometer ..... per proof gallon..	12 0	2 92
No allowance beyond 16.5 shall be made for the under proof of any spirits of a less hydrometer strength than 16.5 under proof		
On all spirits and spirituous compounds imported into the colony the strength of which cannot be ascertained by Sykes's hydrometer ... per liquid gallon..	12 0	2 92
Case spirits, reputed contents of 2, 3, or 4 gallons, shall be charged: Two gallons and under, as 2 gallons; over 2 gallons and not exceeding 3, as 3 gallons; over 3 gallons and not exceeding 4, as 4 gallons.		
Methylated ..... per gallon..	2 0	48
Spirits (perfumed), perfumed water, Florida water, and bay rum .. per liquid gal..	15 0	3 65
Sporting powder ..... per pound..	0 3	6
Spruce beer. (See Beer.)		
Starch and starch powder ..... do....	0 1½	3
Stearine ..... do....	0 1	2
Steel wire ..... per ton..	20 0	4 86
Strawberry acid. (See Cordials.)		
Succades and sweetmeats ..... per pound..	0 2	4
Sugar:		
Refined ..... per cwt..	6 8	1 62
Raw ..... do	5 0	1 22
Molasses and treacle ..... do....	3 4	81
Sugar-candy ..... per pound..	0 2	4
Sweetmeats. (See Succades.)		
Tapioca and semolina ..... do....	0 1	2
Tar ..... per barrel..	2 0	48
Taraxacum chicory. (See Chicory.)		
Tartaric acid ..... per pound..	0 1	2
Tea ..... do....	0 3	6
Timber:		
Dressed ..... per 100 feet superficial..	3 0	73
Rough and undressed ..... do....	1 6	36
Palings ..... per 100..	1 0	24
Laths ..... per 1,000..	0 9	18
Pickets, dressed, as dressed timber.		
Shingles ..... per 1,000..	1 0	24
Tinctures containing spirit the strength of which cannot be ascertained accurately by Sykes's hydrometer ..... per liquid gallon..	12 0	2 92
Tobacco:		
Delivered from ship's side or from a customs bond for home consumption, manufactured, unmanufactured, and snuff ..... per pound..	3 0	73
Unmanufactured, entered to be manufactured in the colony, at the time of removal from a customs bond or from an importing ship to any licensed tobacco manufactory for manufacturing purposes only into tobacco, cigars, or cigarettes ..... per pound..	1 0	24
Sheepwash ..... do....	0 3	6

Table of customs duties of the colony of New South Wales—Continued.

Articles.	English money. s.	d.	United States money $	c.
Tomatoes, preserved. (See Vegetables.)				
Tongues, dried or preserved ..... per pound..	0	1		2
Turpentine ..... per gallon..	1	0		24
Twine and lines ..... per cwt..	2	0		48
Varnish and lithographic varnishes ..... per gallon..	2	0		48
Vegetable wax. (See Wax.)				
Vegetables:				
Preserved (not otherwise charged) ..... per pound..	0	1		2
Salted or in brine ..... do....	0	1		2
In salt water ..... do....	0	1		2
Preserved mushrooms ..... do....	0	1		2
Preserved tomatoes ..... do....	0	1		2
Vermicilli ..... do....	0	1		2
Vinegar, other than aromatic or raspberry ..... per gallon..	0	6		12
Washers, metal. (See Bolts.)				
Water:				
Florida. (See Spirits, perfumed.)				
Perfumed. (See Spirits, perfumed.)				
Wax:				
Japan ..... per pound..	0	1		2
Paraffine ..... do....	0	1		2
Mineral ..... do ..	0	1		2
Vegetable ..... do ..	0	1		2
Wines:				
Sparkling ..... for 6 reputed quarts, or 12 reputed pints..	10	0	2	43
Other kinds ..... per gallon..	5	0	1	22
Other kinds ..... for 6 reputed quarts, or 12 reputed pints..	5	0	1	22
Wire:				
Iron ..... per ton..	20	0	4	86
Steel ..... do....	20	0	4	86
Woolpacks ..... per cwt. gross..	3	4		81
Yeast powder. (See Baking powder.)				
Zinc, perforated or manufactured ..... per cwt..	3	0		72
And upon all other articles, goods, wares, and merchandise imported into the said colony, and not enumerated above or in the free list, for every £100 on the value thereof, the sum of £5.				

EXCISE.

[47 Vic. No. 12.]

	s.	d.
Tobacco, manufactured or cut ..... per pound..	1	0
Cigars and cigarettes ..... do....	2	6

SCALE OF LICENSE FEES FOR BONDED WAREHOUSES.

[42 Vic. No. 19.]

For each warehouse or set of warehouses adjoining or on the same wharf and licensed to the same warehouse-keeper, capable of containing not exceeding 50 tons (calculated at 40 cubic feet of space to the ton, but not more than 10 feet in height being measured upon each floor), £50.

For every 10 tons additional (but not exceeding £300 in the whole), £1.

The measurements to be made by an authorized officer of customs and duly entered by him in a book to be kept for that purpose.

GOODS DECLARED FREE OF CUSTOMS DUTIES.

[Vic. No. 16, 1886.]

Free list.

Anchors; animals, live; bags, gunny and ore bags; bags and sacks, bags and woolpacks used and returned; ballast, ships'; bark, barley, beans, bêche-de-mer, bones; books, being literary compositions and periodicals; bran, building stones; cables, chain (iron), not less than half an inch in diameter; candle nuts, canvas; casks, old; chaff, chalk, clod crushers, cobalt metal, cocoanuts, coin, coir yarn, cop-

per ingots, copra; cotton, raw; cotton waste, cultivators, curbing and guttering, see stones; fiber, field rollers, fish, fresh; flag-stones, flax, flock; flour, not otherwise charged; fluid extracts, fresh meat, fresh vegetables; fruit, green; fungus, garden seeds; gold, unmanufactured; grain and pulse—barley, beans, bran, maize, oats; peas, split and dried; pollard, sharps, wheat, grindstones, guano; gum, kauri; gunny bags, hay; hay-rakes, horse; harrows, hemp, hides; hoes, horse; hoofs, horns, horse-hoes, hay-rakes, mowers, reapers; iron, bar, rod, plate, sheet, bundle, hoop, and pig; iron chain cables, see cables, chain; iron, scrap and old; ivory nuts, kapok; lead, pig; live animals, maize, manures; meat, fresh; metals, old; metal sheets, yellow; military and naval stores, mill-stones; mowers, horse; music, printed; nails, yellow metal; naval stores; newspapers, printed; nickel, unmanufactured; oats; oils, black, cocoanut, sperm; old iron, old metals, old sails, onions, ore bags, ores, passengers' baggage, being cabin furniture and personal luggage, second-hand furniture and effects accompanying any passenger, which have been in such passenger's own use, up to £50 in value, and which are not imported for sale; paving-stones, pearl shell; peas, split and dried; periodicals, phormium, pig iron, pig lead, plants, plows, pollard, potatoes, printed music, pulse, pulu, rags; reapers, horse; rope, old; sacks; sails, old; sandalwood, scarifiers, scrap iron; seeds, garden; seed sowers, sharps, ships' ballast, shooks and staves, shrubs; silver, unmanufactured; skins, specimens of natural history, spun yarn and coir yarn, staves; stones, building, flag, grind, curbing and guttering, mill, paving; straw, strippers, tallow, thrashing-machines, tin ingots, tortoise-shell, trees; vegetables, fresh; whalebone, wheat, whiting, winnowing machines, wool; woolpacks, used and returned; yams, yellow metal sheets, yellow metal nails; zinc, plain sheet.

EXEMPTIONS.

[34 Vic. No. 21, sec. 5.]

All goods imported for the supply of Her Majesty's service are exempted from duties and imposts of every description whatsoever.

[42 Vic. No. 19, sec. 73.]

The collector shall permit dutiable articles imported *bona fide* for the supply of Her Majesty's land or sea forces to be delivered from any ship free of duty, and such dutiable articles shall be issued to the officer in charge of the Commissariat Department or other officer specially appointed in that behalf.

[Vic. No. 16, sec. 4.]

All goods imported for the supply of Her Mejesty's service shall be exempt from all duties and imposts of every description whatsoever and nothing in this act contained shall be deemed to alter or repeal the provisions of the "customs regulation act 1879."

CUSTOMS REGULATIONS.

1. Upon the arrival of any ship within a league of any port on the seaboard, the master or pilot, as the case may be, shall cause to be hoisted and exhibited on a conspicuous part of the rigging the numeral flags indicating her port of departure; and if such ship shall arrive in the night, the master shall cause such flags to be hoisted and exhibited at sunrise next morning, and keep them hoisted during the hours of daylight until boarded by the proper officer of customs.

2. Private regauging in bonded warehouses can only be done by gaugers licensed by the collector.

3. Drawback on the exportation of duty-paid wine, beer, and sugar, will be allowed as heretofore until further notice.

4. Upon examinations and inquiries made by the collector or other principal officer of customs, or other persons appointed by the colonial treasurer or collector of customs to make such examinations and inquiries for ascertaining the truth of facts relative to the customs, or the conduct of officers or persons employed therein, any person examined before them or him as a witness shall give evidence, on oath or affirmation, to be administered or taken by such collector or other principal officer or such other person as shall examine him, and who are hereby authorized to administer such oath and take such affirmation.

5. The hours appointed for the discharging and loading of ships shall be: From 1st October to 31st March, from 6 a. m. to 5 p. m.; from 1st April to 30th September, from 7 a. m. to 5 p. m.

Saturdays till 1 p. m., and the attendance of the landing waiters and tide waiters will be required at those hours.

The hours of attendance of landing surveyors, warehouse-keeper, and lockers shall be from 8 a. m. to 6 p. m. throughout the year.

The hours of attendance of clerks and indoor officers generally shall be from 9 a.m. to 5 p.m. throughout the year, except for the months of May, June, July, and August, during which months the custom-house will be closed at 4.30 p. m.

In cases where it may become necessary to extend the working hours, the collector of customs will make special arrangements to meet such necessity, the fees for the attendance of necessary officers to be paid by the applicants at the following rates per hour, viz:

	s.	d.
Warehouse-keeper	3	6
Landing-waiters	3	0
Lockers	2	0
Tide-waiters	1	6
Night watch	15	0

7. The proper ensign for the customs shall be the red English ensign with the addition of a white cross, being in form and proportion the same as the white English ensign, but with the colors of the flag and cross reversed, and with the letters C H in the outer lower quarter of the flag, and the pendant shall be the red pendant.

9. Every entry which the master of any coaster is required by the 126th and 129th sections of the customs regulation act, 1879, to make in the cargo book shall be duly signed by the said master.

10. In the computation of duties, when the precise duty upon any article may produce a fraction of a penny less than a half-penny, the fraction is to be rejected, and when a fraction amounts to a half-penny or more, the next highest number of pence is to be stated on the entry, and brought to account.

11. Over-payment of duties of customs, or duties erroneously charged, cannot be repaid unless claimed within five years.

12. Whenever an over-payment by a merchant shall be discovered, a written intimation thereof is to be sent to him in a prescribed form, which is to be filled up in the office where the error is discovered.

13. Vessels may be cleared at the custom-house, and steamers if required—at the wharf, until 6 p. m.—on notice given before 4 p. m. A fee may be charged for each foreign or intercolonial clearance made after 5 o'clock, but in all such cases a special permit will be required.

14. The business of the long room at the custom-house will commence at 9.15 a. m.

15. Free bonding and export entries will be passed from 9.15 a. m.; all entries presented will be forwarded in due course to the various stations.

No responsibility will be accepted by the custom department for the non-delivery of entries to the officers at bonds, or the water side.

In order to give every facility to business, an additional copy of entries passed may be signed and given to merchants or their representatives for direct delivery to the officers.

Entries for goods subject to duty and home consumption entries will be passed, and the duties due thereon will be taken by the cashier from 9.15 a. m. to within fifteen minutes of the time appointed for closing.

AD VALOREM DUTY AND PARCELS REGULATIONS.

All goods subject to ad valorem duty are to be treated as exported from the place and country whence the importing ship brought them, unless satisfactory proof be produced that the goods were shipped for this colony from some other country, and were transshipped at the place whence the ship arrived.

Importers, merchants, and agents must be prepared to produce hand-written original manufacturers' invoices when passing entries. Press copies of invoices, and invoices from agents or branch houses will be only accepted subject to strict scrutiny of the goods represented therein for examination and verification as to market values.

The importer or owner shall be at the expense of unshipping, carrying, and landing of all goods, and bringing them to the proper place for examination, opening, unpacking, and of removing, placing, and keeping all goods in the warehouse. If any goods shall be removed from any ship, wharf, or other place previous to examination by the proper officer of customs, such goods shall be forfeited. (Customs regulation act, sec. 77, 78.)

No discounts or deductions from the value of any goods chargeable with duty at value shall be allowed, unless such discount or deduction be clearly shown to the satisfaction of the collector on the original invoice, and in the same handwriting as that in which such invoice is made out, or unless the same be verified by the signature of the manufacturer, merchant, or person from whom the goods set forth or described in

the invoice were purchased, and by whom such discount or deduction has been, or purports to have been, actually allowed.

Invoices showing drawback allowances.—No claim for deduction from invoices of drawback purporting to be allowed on the shipment of goods from intercolonial and foreign ports can be recognized, unless the amount of such drawback so deducted be vouched for by a separate certificate signed by the principal officer of customs at the port of shipment, such certificate to contain full particulars of the marks, numbers, description of contents, export ship, shippers, consignees, and date of shipment.

Duty on goods ad valorem imported borderwise to be collected at the place of crossing, unless forwarded under bond to a customs station.

Parcels by post and by train may be forwarded without examination or entry, to be dealt with at the appointed offices in Sydney.

Parcels by coach may be forwarded under transire from a crossing-place to any other customs station. In all such instances separate notices are to be sent under cover from officer to officer.

All invoices in foreign money, weights, and measures are to be taken at their British equivalents, according to the following schedule, until further notice:

Countries.	Denomination of money.		Approximate equivalents.	
	Divisions.	Units of exchange.	Foreign money.	English money.
				£ s. d.
France, Belgium, Switzerland	100 centimes	1 franc	25 francs	1 0 0
Greece	100 leptas	drachma	25 drachmas	1 0 0
Italy	100 centesimi	1 lira	25 liras	1 0 0
Spain	100 centimos	1 peseta	25 pe etas	1 0 0
Russia	100 kopecks	1 ruble	10 rubles	1 0 0
Germany	100 pfennige	1 mark	20 marks	1 0 0
Austria-Hungary	100 kreutzers	1 florin	12 florins	1 0 0
Holland and Java	100 cents	1 florin	12 florins	1 0 0
Denmark, Norway, Sweden	100 ore	1 crown	18 crowns	1 0 0
Portugal	1,000 reis	1 milreis	1 milreis	0 4 6
Brazil	1,000 reis	1 milreis	1 milreis	0 2 3
Turkey	40 paras 100 aspres	1 piaster	100 piasters, 1 Turkish lira.	0 18 0
Egypt	40 paras	1 piaster	100 piasters	1 0 0
United States, Canada	100 cents	1 dollar	1 dollar	0 4 2
Mexico	100 cents	1 dollar	1 dollar	0 3 3
Central America	100 cents	1 dollar	1 dollar	0 3 3
	100 centavos	1 peso	1 peso	0 3 0
Chili	100 centavos	1 peso	1 peso	0 3 0
Peru	100 centavos	1 sol	1 sol	0 3 0
India	16 annas	1 rupee	1 rupee	0 1 6
China	100 cents	1 dollar	1 dollar	0 3 3
	100 candareens 10 mace	1 tael	1 tael	0 4 6
Japan	100 sen	1 yen (dollar)	1 yen	0 3 3

DRAWBACK.

A drawback of the full duty paid on importation may be allowed on any goods entitled to drawback of duties, if exported in original packages as imported: Provided that the number and date of the entry on which the import duty was paid be specified in the entry for drawback, and in the case of goods liable to duties at value, that the original stamped invoices, according to which the duty was assessed when the goods were imported, be produced at the time of passing such entry, and if the collector thinks fit, that the goods be compared therewith prior to being shipped: And provided also that the proper officer in every case satisfies himself and certifies on the entry that such goods are in all respects in the same condition and are of the same value as when they were entered for duty on importation.

No drawback shall be allowed on goods in broken packages, or on goods which may be packed in the colony, except such goods shall be packed by permission of the collector of customs in the presence of an officer of customs appointed for that purpose at the cost of the applicant for such repack; and no drawback debenture will be passed until all expenses incurred have been paid.

Upon the completion of such packing the cases or packages must be sealed by the customs officer, and immediately shipped or secured in a bonded warehouse until the time of shipment; or if removal cannot be made immediately, the goods must be deposited in a store or place approved of by the collector, under lock of the crown until shipment.

Before payment of drawback of duties at value the collector may require the production of a landing certificate duly signed by the proper officer of customs of the port or place to which any such goods subject to value duties may be exported.

TRAVELERS' SAMPLES.

Duty is to be charged on all samples of sufficient value for duty, including odd gloves, odd boots, and the like. All goods imported in excess of ordinary requirements for sample purposes and having a salable value are to be treated as merchandise.

Travelers desiring to export samples upon which value duties were paid at the time of importation, may, on production of stamped invoices in proof of such payment, re-export and claim drawback thereon, provided that the goods are duly entered outward and shipped to the satisfaction of the collector or other proper officer.

Travelers leaving the colony may submit invoices or statements giving particulars of samples, to be stamped at the custom-house, in order that the samples so described may be admitted free of duty on return if found to agree with the stamped invoice or statement.

TREASURY MINUTES AND GENERAL ORDERS.

The collector shall as soon as conveniently may be after the commencement of each year cause to be published in the Gazette all regulations, orders, or rules made either by the governor or the colonial treasurer, or by the collector during the preceding year in anywise relating to the customs.

Ale and beer in wood; ale and beer in bottle: From the 23d November, beer and ale imported from foreign ports may be taken for duty at 50 gallons to the hogshead, and proportionately for casks of smaller content. An allowance for breakage and pillage of 2½ per cent. may be made on bottled ale and porter from foreign ports. Such allowances are to be granted on beer and ale imported seaward only, and not on beer and ale the produce of the Australasian colonies and New Zealand. Importers are to have the right to examine, repack, or fill for duty, if they elect to do so, at the time of importation.—C. O., 16, 12, 85.

Allowances: Not to be made unless specially authorized by the collector.—C. O.

Bitters and liqueurs in cases to be charged on actual contents.—C. O., 9, 4, 84.

Branded fruits, bottled: The spirit to be measured and duty charged on the actual quantity.—C. O., 5, 4, 75.

Carriages not to be treated as luggage or personal effects. Duty to be paid on new or second-hand, unless previously used in the colony.

Coffee and chicory, roasted and ground for exportation: If removed from bond and duty paid previous to roasting, drawback will be allowed on production of a certificate from the customs officer superintending the operation. If removed from bond for roasting and mixing without payment of duty, the ground coffee and chicory to be returned to bond for exportation only.—C. O., 31, 7, 82.

Drawback bonds not to be required when the amount claimed is less than twenty pounds sterling.—T. O., 9, 9, 79.

Drawback not to be allowed on spirits and tobacco exported by land to any adjoining colony.—T. O., 9, 6, 82.

Dynamite to South Sea Islands prohibited.—T. O., 16, 7, 80.

Erasures: Mistakes in official books or documents are not to be erased. A line is to be drawn through, leaving them still legible, and the correction inserted and certified by the initials of the person making the alteration, with the date on which it was made.—C. O., 5, 4, 84.

Galvanized manufactures: Duty to be charged only on articles made wholly or principally of galvanized iron.—T. O., 15, 1, 84.

Goods for bond may be taken from the wharfs without examination. Officers may be specially appointed for examining duties at the bonded stores.—T. O., 30, 6, 73.

Bond marks and numbers to be painted on packages of cigars and tobacco before removal.—C. O., 4, 2, 86.

Goods in transit may be warehoused without full description of contents as under imperfect entry.—C. O., 23, 11, 68.

Holidays regulated by the civil service act, 1884.—T. O.

Hydrometers to be frequently tested as directed by instructions.—C. O., 21, 5, 85.

Invoices passed by the inspector of invoices. The landing-waiter and other officers concerned are to verify the entries by such examination of the contents of packages as they may deem necessary.—C., 27, 9, 86.

Iron wire netting manufactured in the colony: Drawback may be allowed under certain conditions.—T. O., 6, 3, 84.

Joss stick candles: One-fifth allowed for tare.—C. O.

Landing-waiters to sign attendance books, to be kept at the stations.—C. O., 16, 11, 61.

Liqueurs and bitters in cases to be charged on actual contents.—C. O., 9, 4, 84.

Lockers are not to allow duty-paid goods to remain in bond without permission.—C. O., 26, 10, 60; T. O., 6, 1, 72.

Lockers not to regange except for customs purposes.—C. O., 22, 2, 59.

Malt: Forty-two pounds may be taken as the standard weight per bushel.—C. O., 28, 9, 81.

Malt: An allowance of 2½ per cent. on malt, in bins and tanks, from England.—C. O., 17, 7, 70.

Methylated spirit: A sufficient sample of every parcel imported to be forwarded for analysis.—C. O., 27, 5, 82.

Methylated spirit: All wood—naphtha or methylic alcohol to be examined and approved before mixing.—C. O., 31, 7, 82.

Nuts: In addition to the package tare, allow for shells, walnuts, Brazil, and similar nuts, one-half; almonds in shell, two-thirds; chestnuts and peanuts, one-third.—C. O., 22, 7, 84.

Officers of customs are not to receive (with or without the consent of owners or others) any package or portion of a package of goods subject to duty or entered for customs purposes.—T. M., 17, 8, 75.

Official letters and correspondence on the business of the department to be addressed "Collector of Customs."

Opium, tare of, Patna: Eight ounces per ball: T. O., 26, 10, 61. Tare per case of 120 tins, $18\frac{1}{8}$ pounds.—C. O., 18, 4, 83.

Out-door officers to appear in uniform when on duty.—Exec. Minute, 5, 9, 59.

Outside packages containing goods to be admitted free.

Overtime: Officers are not to make application to the public on the subject of pecuniary payments.—C. O., 22, 5, 65.

Overtime: Double overtime is not to be allowed on any occasion.—T. O., 19, 2, 74.

Overtime: Officers are not to be employed night and day.—T. O., 24, 2, 74.

Passengers' baggage, cabin furniture, effects used, second-hand furniture: If brought by a passenger, or which have been in any passenger's own use, and not including carriages, plate, organs, or pianos, either new or used, to be admitted on declaration and entry, at value, with an allowance free of duty to the extent of £50 of such value.

Penalty for warehouse-keepers' bonds under C. R. act, sec. 11, 42 Vic., No. 19: 500 tons and under, £1,000; 501 tons to 3,000 tons, £2,000; 3,001 tons to 5,000 tons, £4,000; 5,001 tons to 9,000 tons, £5,000; 9,001 tons, at the rate of £50 for every additional 100 tons beyond 9,000 tons.—T. O., 13, 8, 79.

Prime entries: Officers not to allow delivery in excess of prime beyond reasonable limits.—C. O., 26, 9, 82.

Printed books: A declaration may be required that books so entered are literary compositions.—C. O., 23, 11, 85.

Queensland border: The authorized crossing places are: OnePah, Hungerford's, Barringun, Curriwillinghi, Mungindi, Goondiwindi, Texas, Stanthorpe, Boggabilla, and Tenterfield.

Red-books: A separate book to be issued for each bond. The bond-marks and name of the bond to be given on the outside.—C. O., 28, 7, 82.

Repacks may be allowed as follows: Spirits, into packages containing not less than 12 gallons; tobacco, into packages containing not less than 25 pounds net weight; cigars and cigarettes, into packages containing 5,000 in number, or 30 pounds net weight; opium, into packages containing not less than 30 pounds net. Application for the repacking of other goods may be dealt with as occasion may require. Repacks for ships' stores may be allowed as usual, but applications to repack for exportation in packages less than the contents above named are to be specially referred for permission.—C. O., 28, 2, 85.

Rice may be cleaned for exportation only.—C. O.

Salt: An allowance on invoice quantities of 2½ per cent. on common and 5 per cent. on rock may be granted.—C. O., 21, 6, 71.

Salt used for curing hides on board ship: Drawback of duty may be allowed.—C. O., 2, 8, 82.

Rock salt: Refuse to be destroyed at importer's charge.—Commissioner's order, 3, 6, 81.

Salt used in packing hams and bacon, not to be charged with duty.—T. O., 22, 4, 79.

Samples of salable value, to be treated as merchandise.

Samples of goods at value—if value £1 or less, to be admitted free.

Samples, cut, and if no salable value, to be admitted free.

Samples: Duty to be charged on all samples of sufficient value for duty, including odd gloves, odd boots, &c.

Samples, travelers: Travelers desirous to export samples upon which value duties were paid at the time of importation, may, on production of stamped invoices, in proof of such payment, export and claim duty thereon, provided that the goods are duly entered and shipped. Travelers leaving the colony may submit invoices or statements, giving particulars of samples to be stamped at the custom-house, in order that the samples so described may be admited free of duty on return, if found to agree with the stamped invoice or statement.

Samples of goods imported: When the duty does not exceed 1 shilling, samples may be delivered from ship's side without entry or permit. The landing-waiter to note any such delivery in the Blue Book.—C. O., 16, 8, 81.

Samples of wines and spirits: Importers to be allowed samples equal to 1 gill from every cask of wines and spirits entered. The maximum allowance not to exceed 10 gallons from any shipment or parcel imported. Second and subsequent samples may be taken on payment of duty as follows, viz, 1 shilling and 6 pence for each pint sample of spirits by liquid quantity, or at strength, as the collector of customs may elect. Eight pence for each pint sample of wine from the wood. Bottled spirits, cordials, liqueurs, bottled wines—still and sparkling—at per bottle in proportion to the rate of duty per gallon. Equivalent samples may be taken by the customs under the authority contained in the seventy-first section of the customs regulation act, 42 Victoria, No. 19.—T. O., 3, 2. 85.

Ships inward and outwardbound vessels having bonded goods on board: The hatches to be sealed after working hours by the landing-waiter or other appointed officer in charge.—T. O., 2, 8, 69, C. O., 17, 8, 69.

Sight entries: Full details are to be given by the examining officers in order that the total results may be checked—C. O., 16, 2, 81.

Spirits: Strength of, to be charged to the 1-10th of a gallon in cask, and the 32d of a gallon in bottle.—T. O., 21, 6, 83.

Spirits in bottle: Ullages may be charged to the proportion of the full contents of the parcels imported. In order to maintain the standard range of allowance for "under proof," examinations and retests for strength of well known importations will occasionally be necessary. Liqueurs, bitters, and irregular sizes may be returned according to contents.—C. O.

Spirits and tobacco exported overland to adjoining colonies: Drawback not to be allowed.—T. O., 9, 6, 82.

Statistical and other departmental information not to be given without reference to the collector.—C. O., 31, 7, 82.

*Sweetened gin and Geneva containing a percentage of proof spirit not exceeding by distillation 83.5 to be admitted from date on the same scale as spirits under the customs duties act of 1884, 47 Vic., No. 10.—T. O., 30, 6, 84.

Tea musters in tins for liquoring may be delivered without entry or permit, subject to examination by the landing-waiter in charge, who will note delivery in the Blue Book.—C. O., 31, 7, 82.

Tide-waiters to act under instructions from the landing-surveyor and landing-waiter during the time ships are at a wharf.—C. O., 14, 11, 81.

Transshipments coastwise: Entries to bear the commercial or tariff denomination of goods. Bond must also be given for goods subject to duty.—C. O., 8, 3, 86.

Vatting regulations to be continued under treasury order of August 27, 1874.—T. O., 27, 8, 74.

Warrants, import, export, home consumption, and others: Number of packages only need be given in words; weights, gallons, values, and totals may be given in figures. —C. O., 28, 7, 82.

Water condensers not to be imported without a permit from the chief inspector of distilleries.—C. O., 28, 8, 83.

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* The following-described samples have been tested and may be taken for duty at 16.5 under proof until further notice, viz: Vickers' Old Tom; Burnett's Old Tom; Boord & Co.'s Old Tom; Dr. Townsend's Aromatic Hollands; Booth & Co.'s Old Tom; Nonpareil (E. & J. Burk) Old Tom; Holland & Co.'s Old Tom; Deptford, Gayen's Old Tom; Jan Tecker, Gayen, Altona; Bernard & Co.'s Old Tom, Leith; D. J. Thomson & Co.'s Old Tom, St. Anthony's, Leith; Bewley Sons & Co.; Swiss House; Burke's Imperial; Vaughan Jones'; Harmer Pearson & Sons.

Wine in bottle to be charged literally by the reputed quart and pint bottles. Ullages are to be returned sixths or twelfths. Irregular sizes to be returned according to contents.—C. O.

Wire barbed.—Drawback allowed under regulations.—T. O., 3, 6, 84.

DECISIONS GIVEN BY THE COLLECTOR OF CUSTOMS, SUBJECT TO REVISION.

Ague cure, Ayer's, 12*s.* per gallon; air-bricks, galvanized, and all similar manufactured articles, 60*s.* per ton; balsam of aniseed, Powell's, 12*s.* per gallon; bean cake, at value; bon bons, containing small quantities of sweets, at value; bone-dust, free as manure; borax soap powder, at value; cardamoms, at value; cartridges, ordinary, at value; cartridges, blasting, pellets, or compressed powder, blasting powder; cigarettes, medicated, not containing tobacco, at value; cocoanut, desiccated and machine-cut, at value; cocoa purificat, liquid, 12*s.* per gallon; cuticura resolvent, 12*s.* per gallon; diabetes cure, Warner's, 12*s.* per gallon; earth closets, galvanized fittings not to be charged separately, at value; essence of coffee, manufactured from roasted and ground coffee, 6*d.* per pound; essence of coffee and chicory, 6*d.* per pound; essential oils, containing spirit, as essences; essential oils, without spirit, at value; euchrisma, 12*s.* per gallon; floriline (Anglo-American), 12*s.* per gallon; ginger ale, charge as ale; ginger, crystalized, as sweetmeats, 2*d.* per pound; ginger, ground, 1*d.* per pound; ginger, preserved, 1*d.* per pound; galvanized staples, 3*s.* per cwt.; hops, aroma of, liquid, as spirit; hop bitter, powder, at value; infant preservative, Atkins', at value; jet black oil, for harness, S. & H. Harris, at value; kalsomine, a wash, at value; lavender oil, spike, essential oil, at value; lime-juice cordial, in casks, charge as in bottle; liniments generally, at value; linoleum cement, as glue; liquid bread, D. Nicholson & Co., Saint Louis, U. S. A., as bottled beer; maize meal, as maizena; oil, St. Jacob's, as oil in bottle; opium, liquid preparations of, not being paste or tinctures, at value; organs, new or used, not to be regarded as furniture or personal effects, at value; Parrish's chemical food, at value; peanuts, allow one-third for shells; pianos, new or used, not to be regarded as furniture or personal effects, at value; pipe-hooks, plain or galvanized, as spikes, 2*s.* per cwt; plate, not to be regarded as furnitu-e or personal effects, at value; plate, returned presentation, free; polysolvum, liquid soap, at value; pyroligneous acid, 2*s.* 6*d.* per gallon; rennet, essence of, under 25 per cent., 4*s.* per gallon; salt bean cake, at value; safe cure, Warner's, 12*s.* per gallon; sarsaparilla, iodized, prepared with iodine, at value; screws, brassed, 2*s.* per cwt.; show cards, framed, at value; show cards, unframed, 1*d.* per pound; slate (not being roofing or school slates), cut edges, for building purposes, hearths, or verandahs, free; soap extract, at value; soft soap, 2*s.* per cwt.; solar elixir, Dr. Rooke's, spirit; spirits, ammonia, at value; superphosphate of lime, as manure, free; tallow refuse, Fell & Son, free; tar, at equal to 30 gallons to the barrel; tattoo oil, D. Storer & Sons, at value; theobromatis oleum, at value; wheat meal, at value; wine, unfermented, as wine; wire, galvanized, or galvanized barbed, charge as iron galvanized in bundles at 2*s.* per cwt.; wire netting, galvanized, galvanized manufactures; wire rope, black and galvanized, 2*s.* per cwt.; yellow metal shoe-nails, 2*s.* per cwt.; zinc plates, cut from sheet zinc, 3*s.* per cwt.

LIST OF WHARVES AT WHICH BONDED GOODS MAY BE LANDED.

Albion, Algier's, Australasian Steam Navigation Company's, Baltic, Caledonian, Central (Alfred Lamb & Co.), Circular, Clarence and Richmond River S. N. Co.'s, Commercial (King street), Cowper (Woolloomooloo Bay), Dalgety's (late Summerbell's), Dalton's (late Clarence), Dalton's, Greenwich (Salt), Darling Harbor (Government wharf), Dibbs', Ellis', Pyrmont (timber), Fagan's, Goodlet and Smith's (Pyrmont), Grafton (John Frazer & Co.), Huddart Parker's, Hudson Bros.', Hunter River New Steam Navigation Co.'s, Jolly's, Knox (Colonial Sugar Refining Company's, Pyrmont), Lime street (Newcastle Steamship Company), Market, Moore's, New (W. Howard Smith & Sons), New Zealand (Union Steamship Co.), Pacific, Parbury's, Patent Slip, Phœnix (Illawarra S. N. Co.), Queensland Steam Shipping Company, Smith's, Street's, Struth's (W. Howard Smith & Sons), Tasmanian, Towns', Victoria, Walker's, Wearne's.

Bonding warehouses in Sydney.

Name of bond.	Licensee.	Locality.
Alger's	J. Alger	Lower Fort street.
Argyle	I. E. Ives	Argyle street.
A. S. N. Co.'s	A. S. N. Co	A. S. N. Co.'s Wharf.
Australian	Tennant & Co	Elizabeth street, north.
Brown's	Brown & Co	Spring street.
Central	Alfred Lamb & Co	Central Wharf.
Circular	Maxwell & Vale	Phillip street, north.
Dibbs'	T. A. Dibbs	Miller's Point.
Dibbs' (kerosene)	do	Do.
Dalton's	Dalton Brothers	Pitt street.
Dalton's Wharf	do	Dalton's Wharf.
Elliott's	Elliott Brothers (limited)	Bligh street.
Gardiner's	W. Gardiner & Co	Harrington street.
Gilchrist's	Learmonth, Dickinson & Co	Margaret street.
Grafton, No. 1	J. Frazer & Co	Sussex street.
Grafton, No. 2	do	Grafton Wharf.
Greenwich	Dalton Brothers	Greenwich.
Ives' (kerosene)	I. E. Ives	North shore.
Kent street	Mason Brothers (limited)	Kent street.
Macquaire	P. MacMahon	Macquarie street, north.
Metcalfe	J. Upward	A. S. N. Co.'s Wharf.
Moore's	H. Moore	Miller's Point.
Parbury's	Dalgety & Co. (limited)	Lower Fort street.
Powell's	C. H. Powell	A. S. N. Co.'s Wharf.
Pyrmont Wharf*	J. C. Ellis	Pyrmont.
Spring street	Mason Brothers (limited)	Spring street.
Struth's	W. Howard Smith & Sons	Struth's Wharf.
Towns'	Dalgety & Co. (limited)	Miller's Point.
Towns' (kerosene)	do	Do.
Queen's (warehouse)	Crown	Custom-house.
Clarence	Colonial Sugar Refining Co	Pyrmont.

*For timber only.

Bonding warehouses at out ports and inland.

Locality.	Licensee.	Locality.	Licensee.
Albury	T. H. Mate & Co.	Maitland, West	Wolfe & Gorrick.
Do	J. E. Roberts & Co.	Do	D. Cohen & Co.
Bourke	A. Caro.	Morpeth, No. 1	J. W. Pulver & Co.
Do	E. Rich & Co.	Morpeth, No. 2	Do.
Do	K. C. McKenzie.	Newcastle	Wood Brothers.
Brewarrina	Willis & Co.	Do	Gates & Co.
Do	E. Rich & Co.	Silverton	F. E. Harris.
Barringun	H. Green.	Tenterfield	C. A. Lee.
Cobar	Bartons & Goold.	Wentworth	J. Egge & Co.
Corowa	Thos. Bray and others.	Wilcannia	G. H. Doake & Co.
Deniliquin	Jenkin Collier.	Do	Stone & Corney.
Maitland, East	F. & T. Petherbridge Brothers.		

General bonds given by the following: Curcier & Adet, Meyerfeld & Co., John Frazer & Co., Feldheim, Gotthelf & Co., Garrick & Co., Dalton Brothers, M. Baar & Co., W. Howard Smith & Sons, Virgoe, Son & Chapman, Alexander Borthwick, A. S. N. Company, Montefiore, Gillies & Co., City Carrying Company, Burns, Philp & Co., Lorimer Rome, & Co., T. H. Keigwin, A. McArthur & Co., W. H. Neil & Co., Gibbs, Bright & Co., New Zealand Loan and M. A. Company, Harbottle, Alsop & Co., Dalgety & Co. (limited), Peyton, Dowling & Orme, Fox Brothers, Butcher, Fehon & Co., Balchin, Johnston & Co., I. E. Ives, H. S. Bird & Co., Thomas Webb & Sons, Australian Drug Company (James B. Nicholson), John Gilchrist & Co., W. Gardiner & Co., Robert Harper & Co., John Hunter, Lichtner & Co., Tourist Bureau (W. Woolcott), Robert Young.

*Names of persons holding licenses to carry bonded goods.**

[1. For drawback, transhipment, removal from warehouse to warehouse, or to export ship, coastwise shipment, or inland removal. 2. For the conveyance of dutiable goods from an importing ship to a bonding warehouse.]

No.	Name.	Date.	Extent of license.
		1883.	
1	John Woods (City Carrying Company)	Apr. 21	First and second clauses.
2	Richard Shortland (Shortland & Sons)	Apr. 20	Do.
3	Peter Sutton	Apr. 27	Do.
4	Peter C. Hanratty	Apr. 20	First clause.
5	Evan Prosser (E. Prosser & Co.)	Apr. 20	Do.
6	Dugald Thomson (R. Harper & Co.)	Apr. 25	Do.
9	James Horne (Sanders & Horne)	May 16	First and second clauses.
10	Alfred Smith	May 18	First clause.
11	Alfred Lamb	May 19	First and second clauses.
12	Michael Bellamy	May 25	First clause.
13	James Ewan (John Fraser & Co.)	May 29	First and second clauses.
15	William Farrell	May 29	First clause.
16	Thomas Gilmour	May 29	Do.
18	James McMahon	June 7	First and second clauses.
19	Peter Cryen	June 8	Do.
20	John Purcell	June 11	Do.
21	John Meloy	June 13	Do.
22	John Dykes	June 15	Do.
23	Robert Ferguson	June 16	First clause.
24	John T. Forwood	June 22	First and second clauses.
26	Richard C. Smethurst	June 28	Do.
27	Wright, Heaton & Co	June 29	Do.
28	Nicol Patteson	July 3	First clause.
29	James Walker	July 17	Do.
30	John Tate (Tate Brothers)	July 20	Do.
31	John McCormick	July 24	Do.
32	Isaac E. Ives	Aug. 1	First and second clauses.
33	Albert Olley	Aug. 3	First clause.
34	Philip McSherry	Aug. 7	Do.
35	James T. Tillock (Tillock & Co.)	Aug. 11	Do.
36	Thomas Milligan	Aug. 13	Do.
37	George R. Parkes	Aug. 17	First and second clauses.
38	Patrick Quirk	Aug. 28	First clause.
39	James White	Aug. 29	Do.
40	David R. McDonald	Sept. 3	Do.
41	James McCully	Sept. 7	Do.
42	Thomas H. Fay	Sept. 13	Do.
43	David Rea	Sept. 25	Do.
44	George Yeldham	Sept. 27	Do.
45	James Rogers	Oct. 3	First and second clauses.
47	Thomas Long	Nov. 5	First clause.
49	George H. Goodwin	Nov. 13	Do.
50	James Buzza	Nov. 14	Do.
51	Frederick Grundy	Nov. 27	Do.
52	Patrick McDonnell	Dec. 10	Do.
53	Daniel Quigley	Jan. 4	Do.
54	William Linborg	Jan. 21	Do.
		1884.	
55	Henry W. Mortimer	Jan. 21	First clause.
57	William E. Walbran	Feb. 5	Do.
58	Thomas Fereday	Feb. 6	Do.
59	Henry Cope	Feb. 6	Do.
60	Thomas F. Knox (Dalgety, Blackwood & Co.)	Feb. 8	First and second clauses.
61	Daniel Hefferman	Feb. 14	First clause.
62	John Paul (Potts & Paul)	Feb. 18	Do.
63	James B. McCooey	Mar. 27	Do.
64	Frederick Bloomfield	Apr. 16	Do.
65	Thomas Lloyd	May 12	Do.
66	Frederick H. Trouton	May 19	First and second clauses.
67	John J. Gillham	May 14	Do.
68	Thomas Chester	May 19	First clause.
69	Edward S. Ransom	May 31	Do.
70	Patrick Lacy	June 18	Do.
71	William McKeown	June 20	First and second clauses.
72	Robert Marsh	July 4	First clause.
73	James Elliott	July 21	Do.
74	James S. Drew	July 25	First and second clauses.
75	Joseph Field	Aug. 1	Do.
76	Robert Pierce	Aug. 6	First clause.
77	William C. Bird	Aug. 6	Do.
78	George Briscoe	Aug. 8	First and second clauses.
79	Alfred Gore	Sept. 4	First clause.
80	John Brewer	Sept. 8	Do.

* These licenses are granted under the provisions of 42 Vic., No. 19, sections 14 and 15.

Names of persons holding licenses to carry bonded goods—Continued.

No.	Name.	Date.	Extent of license.
		1884.	
81	Thomas Ward	Sept. 16	First clause.
82	William Birkinshaw	Oct. 7	Do.
83	John Flynn	Oct. 9	Do.
84	Isaac Ashton	Oct. 13	Do.
85	John Buckham	Oct. 15	Do.
86	Robert Hilliard	Oct. 17	First and second clauses.
87	Richard Putland	Nov. 5	First clause.
88	Hugh T. Smith	Nov. 20	Do.
89	Thomas Johnston	Nov. 29	First and second clauses.
90	John McMahonu	Dec. 1	First clause.
91	Ambrose W. Mason	Dec. 17	Do.
92	John Ryall	Dec. 30	Do.
		1885.	
93	John Cook	Jan. 14	First clause.
94	Joseph P. Matthews	Jan. 24	First and second clauses.
95	Alfred S. R. Wakefield	Feb. 5	First clause.
96	Laurence MacBrair	Feb. 14	Do.
97	Thomas Fereday	Feb. 24	Do.
98	William D. Lewis	Feb. 26	Do.
99	Edward McCrory	Mar. 24	Do.
100	John Aitkin	Mar. 26	First and second clauses.
101	William Webster	Apr. 16	First clause.
102	Andrew Johnson	Apr. 28	Do.
103	R. Towns & Co.	Apr. 28	First and second clauses.
104	James Dalton (Dalton Brothers)	May 13	Do.
105	Saywell's Tobacco Company (Limited)	May 21	Do.
107	Henry Wakefield	June 4	First clause.
108	Henry Godefroy	July 1	Do.
109	John J. Farrell	July 3	Do.
110	William H. Anderson	July 6	Do.
111	William Dateon	July 7	Do.
113	James P. Flannery	July 24	Do.
114	William Warwick	July 28	Do.
115	Johnston Brothers	Aug. 4	First and second clauses.
116	William Mackie	Aug. 5	First clause.
117	George Gordon	Aug. 20	Do.
118	Hugh Dixson (Dixson & Sons)	Aug. 25	First and second clauses.
119	John Thomsson	Sept. 2	First clause.
120	Richard Ryan	Sept. 8	Do.
121	William J. Austin	Sept. 9	Do.
122	John P. Mathews	Sept. 15	Do.
123	Thomas Holbourn	Sept. 25	Do.
124	Charles S. Jewett	Sept. 29	First and second clauses.
125	James Steers	Sept. 29	First clause.
126	William Robertson	Oct. 13	First and second clauses.
127	William Ferris	Oct. 20	First clause.
128	Bartholomew Manning	Oct. 21	First and second clauses.
129	Charles E. Wootton	Oct. 28	First clause
130	Robert Beckett	Nov. 7	Do.
131	Joseph Hobson	Nov. 26	Do.
132	John Harrison	Nov. 30	Do.
133	Thomas A. Remfry	Nov. 30	Do.
134	Edward Northcote	Dec. 10	First and second clauses.
135	John H. Sudeke	Dec. 14	First clause.
136	James Rogers	Dec. 23	Do.
137	Thomas Purcell	Dec. 23	Do.
138	Stanley Cole	Dec. 30	Do.
139	Michael Candrick	Dec. 31	First and second clauses.
140	Alexander Meloy	Dec. 31	First clause.
		1886.	
141	James Macgregor	Jan. 8	First clause.
142	John Miller	Jan. 11	Do.
143	Thomas Synott	Jan. 12	Do.
144	John Bennis	Jan. 13	Do.
145	John Sheedy	Jan. 14	First and second clauses.
146	Talbess Company	Feb. 3	First clause.
147	James McBurney	Feb. 5	Do.
148	Michael Brennan	Feb. 5	Do.
149	Edward Cunningham	Feb. 8	First and second clauses.
150	Edward Walsh	Feb. 9	First clause.
151	Peyton, Dowling & Orme	Feb. 10	Do.
152	Bernard O'Reilly	Feb. 10	First and second clauses.
153	Twentymen Hodgson	Feb. 11	First clause.
154	John Coady	Feb. 15	Do.
155	Edward Wilkinson	Feb. 17	Do.
156	James Ryan	Feb. 18	Do.
157	Robert Pearce	Feb. 18	Do.
158	Gustav Stumpf	Feb. 19	Do.
159	Robert McFarland	Feb. 19	Do.

Names of persons holding licenses to carry bonded goods—Continued.

No.	Name.	Date.	Extent of license.
		1886.	
160	Phillip Brady	Feb. 22	First clause.
161	George Abbott	Feb. 23	Do.
162	John Smith	Feb. 23	Do.
163	Laurence Dwyer	Feb. 26	Do.
164	Charles Colby	Feb. 26	Do.
165	Edwin O'Brien	Mar. 1	Do.
166	Patrick Howard	Mar. 2	Do.
167	Robert Noden	Mar. 3	Do.
168	John Whitehead	Mar. 4	Do.
169	John Sharpless	Mar. 5	Do.
171	George Taylor	Mar. 12	Do.
172	John James Amess	Mar. 16	First and second clauses.
173	Samuel Dickinson (Learmonth, Dickinson & Co.)	Mar. 23	Do.
174	Maurice Costello	Mar. 24	First clause.
175	John Riley	Mar. 31	Do.
177	Joaquin Mauri (Mauri Brothers)	Apr. 13	Do.
178	Charles Arthur Ginn	Apr. 14	Do.
179	Peter Ellison	Apr. 15	First and second clauses.
181	G. Skelton Yuill	Apr. 21	Do.
182	David Ripp	Apr. 29	First clause.
183	George McMurtrie (McMurtrie, Kellermann & Co.)	Apr. 30	First and second clauses.
184	William Alfred Clementson	May 8	First clause.
185	Cesar Christy	May 11	Do.
186	Joseph Regent	May 11	First and second clauses.
187	Martin Moloney	May 12	First clause.
188	James West (West Brothers)	May 14	Do.
189	Henry Franks (F. T. Wimble & Co.)	May 18	First and second clauses.
190	Daniel Con		
191	Alfred Spry Dew Harston (Keighton & Harston)	May 25	First clause.
192	John Jones	May 25	Do.
193	Peter Capel	May 26	First and second clauses.
194	Cosmann Nettheim	June 2	First clause.
195	Martin Tansey	June 10	Do.
196	Thomas Alfred Dixon	June 11	Do.
197	Robert Sands (John Sands)	June 21	First and second clauses.
198	Thomas Pierce	June 21	Do.
199	William Ronald	June 21	First clause.
200	Neil Larson	June 28	Do.
201	Patrick Keane	July 9	First and second clauses.
202	William Charles Woolcott (Tourist Bureau)	July 12	Do.
203	Hannah Mulcreavey	July 15	First clause.
204	Herbert Edmond Rae (Harrison & Attwood)	July 16	Do.
205	Robert Hood	July 21	Do.
207	James Mail, jr	Aug. 3	Do.
208	Arthur Walker	Aug. 4	First and second clauses.
209	John Topham Turton (Peate & Harcourt)	Aug. 24	First clause.
210	Vincent Davis, jr	Aug. 26	Do.
211	George Blundell	Aug. 27	Do.
212	Joseph McDonald	Sept. 2	Do.
213	Thomas Robert Allt (Allt & Co.)	Sept. 3	Do.
214	James Lane	Sept. 3	Do.
215	Adolphus George Heighway	Sept. 7	First and second clauses.
216	Charles King	Sept. 14	First clause.
217	Thomas Joseph Conlon	Sept. 15	Do.
218	John Carson	Sept. 20	Do.
219	Enoch Taylor & Co	Sept. 27	Do.
220	William Campbell	Sept. 28	Do.
221	William Maxwell	Sept. 28	Do.
223	Charles Joseph Gorman	Oct. 1	Do.
223	Rasmus Johnsen Rasmussen	Oct. 1	Do.
224	Edward Earl	Oct. 6	Do.
225	Alfred Erasmus Higgs	Oct. 21	Do.

VICTORIA AND NEW SOUTH WALES.*

[From "State Aid and State Interference," by George Baden-Powell.]

The history for the past ten years of our two great colonies of Victoria and New South Wales provides us with the necessary records. This is the first time in history that we meet with the story, told in the details of actual fact, of two young communities growing up side by side with practically similar economic environments and opportunities, but pursuing the one a free trade and the other a protectionist policy. In Victoria, in the year 1865, Sir J. MacCulloch introduced a modified form of protection, and since 1871 there has prevailed that very intensified form of which the late premier, Mr. Graham Berry, has been the persistent advocate. Over this same period, and more especially since 1874, New South Wales has followed an essentially free-trade course.

* * * * * * *

So far as the purpose in hand is concerned, these two colonies were in the ye ir 1870 sufficient counterparts of each other in regard to economic environments and opportunities. Either community may be described as a pioneer band of the great English nation, engaged in opening up virgin lands rich in all natural wealth. Our fellow-countrymen in Victoria and New South Wales had provided for themselves all the aids and advantages our present civilization offers. Roads, railways, telegraphs, postal arrangements, sea communications, education, &c., were all in a high state of perfection. All the facilities of life under the care of energetic administrations had developed with marked rapidity. At the same time these two colonies yield to no country in the world in the richness of their natural endowments. Both above and below ground the soil is pregnant with wealth, and the climate is all Englishmen can desire for the due exertion of their productive energies. Thus in these two colonies the scientific industry of this nineteenth century had found its most favorable opportunities.

In the nature of things, these two colonies are, for the present, producers mainly of raw material which they exchange for the manufactured products of more populous centers.

Thus we find the inhabitants of these colonies import twice as much value per head as the inhabitants of the British Islands. This is a fact of much value to our present purpose. The United States have been perpetually put forward in the free-trade controversy. But the United States only import a value of £2 per head of population per annum. We in these British Islands import, say, £10 per head. But in these two colonies the imports are, in value, £20 per head of population per annum. Consequently the direct effect of high or low tariffs is ten times as great in these instances as in that of the United States, and the value of these instances ten times as great to the economist.

The necessary starting-point of the comparison is the determination that at the beginning of the decade these two young communities were sufficient counterparts of each other in regard to economic environments and opportunities. The protectionists of Victoria offer justification or apology for their swerving from the straight course pursued by New South Wales on the three pleas of lesser extent of territory, larger population, and absence of coal. In regard to this lesser extent of territory, we find that Victoria has sold 11,000,000 acres, and has 45,000,000 still unsold, and that New South Wales has sold 33,000,000 acres, and has still 165,000,000 acres unsold. In each case the State has sold, or in other words has settled, from one-fourth to one-fifth of its area. In each case there remain over three-fourths of the area open for settlement. At present the population to the square mile in Victoria is ten persons, and in New South Wales three persons. In the United Kingdom the proportion is two hundred and seventy. Both colonies are thus only on the threshold of their career as populated and developed countries. There is the real difference that the future capabilities of New South Wales are greater. But the present case refers solely to the past ten years. And during that decade the extent of the unoccupied lands is not so much to the point as the fact that in either case there are three-fourths of the soil of the colony still open for settlement. In each colony men are pushing on with their flocks and their herds to occupy new areas of virgin soil, and the plow follows in their track to pioneer agricultural settlement. In neither case has this operation as yet advanced

*As the tariff reported by Consul Griffin makes a new departure for the colony of New South Wales, the following comparison between the old policy, as shown in New South Wales, and protection, as shown in Victoria, will be of value.

over the whole. That is the condition at the present; and we are dealing with the past and not with the future.

In regard to the larger population of Victoria, that also is a relative matter. Each colony is but sparsely populated. Victoria, the size of England, Wales, and Scotland combined, is at the present peopled by a population equaling that of Kent only. New South Wales is about three times the size of Victoria, with a somewhat smaller population. In either case, after deducting the quarter of the population that congregates in the capital of each colony, we have but a very sparse and scattered population over the interior. It must be conceded, however, that in so far as the population of Victoria is relatively denser than that of New South Wales, in so far manufactures, or revenues, or prosperity, or growth should develop with greater natural speed in Victoria than in New South Wales; in so far as Victoria had a larger or a denser population than New South Wales, in so far Victoria started with superior natural or inherent advantages in those very objects to foster which Victorians instituted their policy of protection.

In regard to the great superiority of New South Wales in the production of coal, it is well to remember that this coal is produced on the Hunter River and has to be carried thence by sea to Sydney, which is the center of manufacturing enterprise. It is well known that when once coal has to be shipped the difference in length of voyage of one day to Sydney or three days to Melbourne makes but little difference in actual cost, so that in the question of fuel for manufactures there is little practical difference in regard to coal supply in the two colonies. As a wealth-yielding force against the coal of New South Wales must be set off the great superiority of Victoria in the production of gold. It is true that the gold industry has declined rapidly in Victoria in output and in number of men employed; but we must remember there is also a gold-mining industry in New South Wales which has also declined. This decline is due to the fact that gold was first discovered in alluvial soil, disintegrated from the quartz by the action of nature. Alluvial diggings provided a rich harvest, but they soon became exhausted, and miners had to turn to extracting the gold from the primeval envelope of quartz. This led to a complete revolution in the mining industry. The falling off of the output in gold consequent on this revolution was not the annihilation of capital, nor was it the forcing labor to leave the colony in search of employment. The city of Ballarat survived and continued to thrive as the great center of the investment of capital in mining, which had superseded "digging." Quartz reefs had to be attacked instead of alluvial plains, and this change involved investment of more capital. Powerful engines, colossal stamping machinery, and miles of tunneled galleries and shafts had become necessary, and gold-mining needed and absorbed a far greater amount of capital than in the old days when picks and shovels and wooden cradles were all the plant and implements requisite. Much of the very capital that the rich gold "diggings" had yielded was at once invested in these new works. But there remained overmuch capital so accumulated which was not thus utilized and which was there ready to start or promote any new industries.

Labor, too, was set free. In 1871 there were over 59,000 gold-miners in Victoria. By the year 1878 the number had dwindled to 37,000. This had set free in Victoria some 20,000 men of the artisan and mechanic class—of a class, too, which was originally recruited very largely from the manufacturing districts of the old country. There was thus provided during this decade labor of a very applicable type for those very manufactories which were now to be fostered by protection. Thus in this respect, in this very failure of the gold industry, Victoria gained over New South Wales in this supply of capital and of appropriate labor for those purposes for which the high tariff was imposed.

Besides this, the greater amount of gold obtained in Victoria had attracted at once a far larger population, and yielded forthwith much capital. This led to the fact that in Victoria, at the beginning of the decade under review, the railway system, and indeed all the facilities of life, had reached a higher stage of development than those of New South Wales. In every respect, then, we see that if there was any difference between the two colonies ten years ago, it was a difference in favor of Victoria, so far as the starting manufactories, the affording revenue, or the promoting the general growth of prosperity were concerned. And these were the objects for which the high tariff was imposed.

In 1870, then, such were the relative economic positions of Victoria and New South Wales. What happened during the succeeding decade is set out in a variety of official documents and records, in greater part issued by the Victorian government. These results range themselves conveniently under the heads Manufactures, Revenue, General Prosperity, and Growth.

Manufactures.—When protection speaks of fostering manufactures it speaks of fostering those industries which result in the production of commodities other than food and raw materials. And the plea is that except for such fostering these industries will be slow to arise in the community. Do we find justification of this in fact? The

evidences are to be seen in the employments of the people and of capital, in the output of manufactured articles, and in the number and kind of manufactures developed.

In regard to the employment of the people, we find that at the end of the decade there were 25,000 persons making their living in manufactories in New South Wales, equivalent to 3.7 per cent. of the total population. In Victoria there were 28,000 persons so employed, equivalent to 3.2 per cent. of the larger population of that colony. This so far disposes of the argument so often advanced that protection promotes civilization by providing civilized employment for the people in a new community.

Again, in Victoria during the decade, population had increased by one-eighth, but the number of hands employed in manufactures had increased one-third. Side by side with this we remember the very pertinent fact that the greater falling off in gold mining had set free a large body of appropriate labor. There was this transference from one congenial occupation to another, but no development of any new class of operatives. By this transference of forces Victorian manufactures received an impetus totally unconnected with any fiscal or commercial policy.

Unfortunately the official records are in number of manufactories, and they afford no evidence of the size of the units so recorded. The number of foundries, clothing manufactories, agricultural implement and other works, has largely increased in both colonies. So far as kind goes we find that as great a variety of manufactures has come into being under the low as under the high tariff. In either case the development as compared with the great natural industries of the country is insignificant. In one or two instances such industries have assumed larger dimensions in Victoria than in New South Wales. There are now, for instance, 750 hands employed in woolen manufacture in Victoria as compared with the 300 in New South Wales. But then, to counterbalance this, we find one manufacturing industry which has grown up in the free-trade and dwindled in the protectionist colony, and that is the important industry of ship-building. Ten years ago Victoria built 800 tons of shipping, and New South Wales built 1,800 tons. Now, the amount output is only 400 tons for Victoria, while it has risen to 3,000 in New South Wales. Under the low tariff this important industry has doubled itself; under the high tariff it has diminished by one-half.

As an example of what is at present proceeding, we have a report of its committee to the Association of the Protected Bootmakers at Melbourne, in which the following passage occurs: "Our travelers report to us they find very great difficulty in placing our goods on the neighboring markets, principally through the competition of Sydney with their own manufacture and European imported, sold sufficiently low to secure the custom. It must be remembered that Sydney has always had a steady export of her own manufactures, and that her manufacturers are giving inducements to our best work-people to remove there. It also must be remembered that all leathers—the boot manufacturer's raw material—are admitted free into the port of Sydney, while an import duty of 7½, 10, and 20 per cent. is enforced in Victoria, thereby placing the Sydney manufacturing at an advantage."

It is not easy, in the absence of definite records, to estimate the actual output from these manufactories, and in neither colony is there any appreciable export of commodities locally manufactured. But if we compare the articles which are imported into Victoria under a heavy duty, and which enter New South Wales free, we shall find that, in spite of the increase in price, Victoria still is forced to supply herself with the "prohibited" or "weighted" foreign articles, and imports these classes, on an annual average, about as much as the unprotected New South Wales.

Consequently, in regard to the development of manufactures in these new communities, we find there is not much difference in results between the free trade and the protectionist policy, if we look at the employment of people, output of manufactured articles, and number and kind of manufactures actually developed.

Revenue.—Protection, especially for young communities, is over and over again defended on the plea that revenue must be raised. This plea is common with statesmen, not only in one or two of our own colonies, but in the United States. It is the great plea set up in Germany by the Bismarck party. This plea proceeds on the assumption that the higher the tariff the greater must be the revenue derived from the customs duties. Theoretical economists point out that "to tax your trade is to destroy your trade"; that "where protection begins there revenue ends"; that "to hamper the entry of goods into your market by heavy duties is to starve, even unto death, the goose that is to lay your golden eggs of revenue." More practical economists hold that it is a mere question of balances, and that it is conceivable so cunningly to adjust the duties that, while inevitably destroying some of the trade existing under a lower tariff, this higher tariff yet sucks more revenue in the aggregate out of the lesser trade that remains. The question is really solved only by appeal to experience; and experience tells us that a low customs tariff yields most actual revenue. It appears, if we look to the records, that the annual revenue derived from the high tariff in the United States has fallen steadily during the last decade from thirty-seven to twenty-seven millions sterling. During the same period the English low tariff steadily

contributed, and still contributes, an annual contribution to the revenue of twenty millions sterling. During the decade the population of the United States has been increased by 10,000,000 of people; that of the United Kingdom by only 4,000,000. So the English people, with all the acknowledged advantages of a low tariff, contribute, pro rata, actually more revenue by the means of customs duties than the citizens of the United States, who are hampered by all the acknowledged evils of a high, a very high tariff

The recorded results over the same decade in Victoria and New South Wales corroborate in a striking manner this matter-of-fact conclusion. During the decade the amount derived from customs duties in New South Wales has gradually risen from £950,000 to £1,300,000. Over the same period the high tariff has provided to the Victoria revenue annual contributions which, if they have fluctuated at all, have shown a downward tendency, and now yield annually £1,400,000. It will be observed that the smaller population of New South Wales contributes as much to the revenue by the means of its low tariff as the larger population of Victoria contributes by means of its high tariff. These are facts and not fancies, and it is only by ignoring them or being ignorant of them that any responsible authority can put forward this revenue argument.

General prosperity and growth.—I have said that Victoria and New South Wales each imports twice as much per head of population as we do in these islands. It is obvious that any policy which affects their imports must affect their general life and well-being to a degree unknown even in these commercial islands. And I pass to compare the two colonies in regard to general prosperity and growth. The signs of this are external and internal; the signs are to be seen in their dealings with the outside world, and also in their domestic condition.

Firstly, then, as regards their dealings with the outside world. This is a most significant index of their actual welfare, seeing that their external trade is double in value per head of population to what it is even in England. This trade is a sure indicator of prosperity, inasmuch as it is a sure indicator of any increase or decrease in consumption and production, the two visible factors of prosperity. Ten years ago New South Wales was doing an external trade of the annual value of £19,000,000. A decade of steady increase brought this total up to £29,500,000 in 1880. Ten years ago Victoria was doing an annual external trade of £27,600,000. In the succeeding decade a wavering line of rise and fall brings us to an annual total of £30,500,000 for 1880. Under the high tariff external trade increased during the decade by one-ninth only. Under the low tariff external trade increased by more than one-half of its previous annual total. The full significance of this is seen when we find New South Wales at the end of the decade doing £10,000,000 more annual trade than at the beginning, while Victoria was only doing some £3,000,000 more. Ten per cent. profit on such trade would mean an addition to the annual national income of New South Wales of £1,000,000, and to that of Victoria only some £300,000.

Incidentally, it is worthy of note that the German Government, perhaps the best informed government at present in existence, has chosen for the headquarters of its consul-general for Australasia the capital of the low tariff colony, although the high tariff colony is at the present moment ahead in number of population and in value of external trade. The Germans evidently judge of the certain future by means of the recorded past.

Further instruction follows on further analysis of this external trade. If we turn to the exports we find that ten years ago the value of articles, the produce or manufacture of the colony itself, was exactly 77 per cent. of the total value exported from each colony. At the end of the decade we find the amount of this native produce exported had risen to 83 per cent. in New South Wales, but had fallen to 68 in Victoria. In other words, under the low tariff there had been increase, and under the high tariff decrease, in the exportable surplus of native products, a most important sign of prosperity and growth.

If we turn to the imports we find that ten years ago there entered New South Wales goods to the value of £9,000,000; at the end of the decade this annual value had mounted to £14,000,000, an increase of 60 per cent. Ten years ago the imports into Victoria were of the value of £12,500,000; at the end of the decade this annual value had mounted to £14,600,000, an increase of 20 per cent. only. In other words, not only the power but the using of the power to purchase foreign produce (and there was profit accruing to each purchase made) increased by about three times the speed under the low tariff to what it did under the high tariff.

There is another point in this external trade of much significance. In New South Wales there has been an increase in the tonnage of the shipping visiting the colony during the decade from 1,500,000 to 2,600,000 tons. In Victoria the increase has been from 1,300,000 to 2,200,000. It may be said that this difference in growth is inevitable under a low as opposed to a high tariff, but it none the less represents a fountain of popular well-being drawn upon in the one case to a much more profitable extent than in the other.

In connection with this shipping there are the very important records of ballast. There came to New South Wales during the decade 3,000,000 tons of shipping in ballast. There left New South Wales during the decade 117,000 tons of shipping in ballast. There came to Victoria during the decade 113,000 tons in ballast. There left Victoria 2,500,000 tons, the greater portion of which proceeded to New South Wales. Empty ships arriving in New South Wales have increased from an annual tonnage of 220,000 in 1870 to a tonnage of 320,000 in 1880. Empty ships leaving Victoria have increased from an annual tonnage of 198,000 tons in 1870 to a tonnage of 250,000 in 1880.* It will be observed that the conditions are exactly reversed in favor of the growth of the low-tariff colony.

The domestic or internal condition and progress of these two colonies will complete the illustrations we would give of their growth and prosperity. In the first place, in regard to population, we find that that of New South Wales has increased from 520,000 in 1870 to 740,000 in 1880, an increase of 48 per cent. The population of Victoria has increased from 730,000 in 1870 to 860,000 in 1880, an increase of only 17 per cent. In the second place, in regard to wealth, already we have seen, in every point we have touched upon, the far greater rapidity with which wealth-producing developments have been proceeding in New South Wales than in Victoria. From this we infer the fact that wealth is being produced in similar ratio. And when we read that the value of ratable property has doubled in New South Wales in the decade, and only increased by one-half in Victoria, we have our inference signally verified by recorded facts.

Singular evidence is afforded, also, by the statistics of the savings banks. In New South Wales the deposits have increased from £930,000 to £1,500,000, and the number of the depositors from 21,000 to 32,000. In Victoria the deposits have increased from £1,100,000 to £1,600,000, but the depositors have increased in number from 38,000 to 76,000. In other words, the average amount deposited has risen in New South Wales steadily from £44 per head to £47. In Victoria the average deposited per head has fallen from £29 to £15. This is evidence corroborating the fact so commonly asserted that in democratic Victoria wealth is accumulating in the hands of the few. This is a result generally associated with a high tariff by all writers on political economy. It is a result which, in its direct antagonism to the wholesome principle of equable distribution of wealth, stamps it as one of the most injurious results of a high tariff.

Illustrative of this tendency is the fact that the average wages of skilled labor grew in New South Wales, during the decade, from being lower to being higher than similar wages in Victoria.

That wages should have risen under a low tariff faster than under a high tariff is a fact of great importance, especially to countries wherein manhood suffrage gives to the wage earner so much political power and responsibility. But is a fact of which most people are ignorant.

It is well also to notice that the prices of the necessaries of life, of wheat, tea, and provisions, and tools and implements, are generally lower in New South Wales than in Victoria. This, of course, adds much force to the before recorded results in the nominal rates of wages, for it adds the essential element of greater relative purchasing power under the low tariff.

In order to form an exact estimate of social well-being we must build a general judgment on numerous details, and among these details marriages afford opposite information. In New South Wales during the decade the annual number of marriages has steadily increased from 3,800 to 5,100, an increase of one-third; in Victoria the increase in annual number has been from 4,700 to 5,100, an increase of one-eighth only. While in New South Wales marriages are in proportion of seven to every one thousand of population, in Victoria they are but six per one thousand. And this is the more remarkable when we remember that in New South Wales there are eighty women to every one hundred men, whereas in Victoria there are ninety women to every one hundred men.

Ample details have thus accumulated during the past decade to show that in regard to all outward signs of prosperity and growth, social, industrial, commercial, the colony with the low tariff has progressed with far greater rapidity than the colony with the high tariff. This exhibits the great practical use of statistics. They are thus brought to substantiate, by the cold logic of recorded acts and facts, the reports and rumors that have been rife in these two colonies. The newspapers, it is true, had provided from day to day pictures of New South Wales altogether devoid of the sombre economical coloring that had become the salient feature in the accounts of Vic-

* The Sunday Morning Herald, in an able leader on my article, very properly suggests that some of this ballasting may be due to the fact that vessels freighted to Melbourne afterwards come on to New South Wales for coal. But the Herald points out that besides this Sydney is rapidly becoming the one mercantile center of the Australian seas.

toria. Nor has there been in New South Wales that general outspoken discontent among capitalists as well as among working men which has from time to time manifested itself in Victoria. Under the high tariff each industrial class in Victoria has in its turn bitterly complained of the duties that specially weigh upon it. The latest information carries on the tale to deputations of miners demanding of Government a lowering of duties on imported mining machinery and tools. The farmers have been for some time threatening to give up their farming because of the high prices they are forced to pay for their implements and materials, high prices unknown over the border in the low tariff colony of New South Wales. Multitudes of laborers, the very men who by their votes supported the policy of "protection" to native labor, have had from time to time to stave off starvation at relief work wages. It has been for some time more than suspected that capital had set in a strong current towards other colonies; it is not, however, known that the current of labor, far less easily transferable, had set in the same direction. The skillful and conscientious estimates of population made from year to year by the Victorian Statistical Department, under the guidance of that very able statist, Mr. Hayter, proved when the actual records of the census of this year came to be taken, to be no less than 76,000 of people over the mark in a population of 850,000. Mistaken popular opinion refused to recognize the enormous emigration of laboring men and their families that had been proceeding all the while. But by this official recording of facts this popular error has now been set straight.

NATAL CUSTOMS TARIFF, PROMULGATED AT DURBAN ON THE 13TH OF DECEMBER, 1886.

TRANSMITTED BY CONSUL SILER.

SCHEDULE A.—THE TARIFF.

	Rate of duty. £	s.	d.
Ale, beer, and cider.....per gallon..	0	0	9
Bacon, hams, and lard.....per pound..	0	0	2
Beads.....do....	0	0	2
Blankets and sheets, cotton, the single article, in pairs, or in the piece, for every £100 value	10	0	0
Blankets and rugs, woolen, or manufactures of wool and cotton commonly used as woolen blankets, or rugs, the single article, or in the piece, for every £100 value	10	0	0
Butter, butterine, or other substances imported as butter.....per pound..	0	0	3
Candles.....do....	0	0	1
Cement, Portland or Roman..per cask not exceeding 400 pounds per cask..	0	2	0
Cocoa, jams, jellies, confectionery, bottled and tinned fruits, preserved or pressed vegetables, pickles, sauces, salted and preserved meats and potted fish.....per pound or per pint..	0	0	2
Coats or jackets made of blanketing or baize, for every £100 value.....	10	0	0
Coke and patent fuel.....per ton..	0	3	0
Cheese.....per pound..	0	0	3
Coffee.....do....	0	0	0½
Chicory.....per 100 pounds..	0	5	0
Corn and grain of all kinds, including peas, beans, dholl, and gram, per cwt	0	1	6
Fruit, dried, and preserved, of all kinds.....per pound..	0	0	2
Flour, meal, and bran.....per 100 pounds..	0	1	0
Guns and gun-barrels.....each barrel..	1	0	0
Gunpowder.....per pound..	0	0	6
Matches, in boxes or other packages, each containing not more than 100 matches.....the gross of boxes..	0	1	0
Oils of all descriptions, imported in vessels containing not less than half a gallon (chemical, essential, and perfumed oils excepted)....per gallon..	0	0	6
Pistols, pistol-barrels, or set of barrels.....each..	0	5	0
Picks and hoes, called Kafir picks and hoes.....do....	0	0	6
Rice.....per cwt..	0	1	0
Rock salt.....per ton..	0	2	0
Salt (in bags).....do....	0	5	0
Spirits of all sorts, not sweetened, not exceeding the strength of proof by Sykes' hydrometer, and so in proportion for any greater strength, per gallon	0	9	0

	Rate of duty. £	s.	d.
Spirits (sweetened or perfumed), liqueurs and cordials .....per gallon..	0	9	0
Sugar (unrefined)..... per cwt..	0	3	6
Sugar (refined)..... per pound..	0	0	1
Tea .....do....	0	0	6
Tobacco (not manufactured).....do....	0	0	6
Tobacco (manufactured).....do....	0	2	0
Tobacco (cigars).....do....	0	4	0
Wines, other than pontac, claret, and sparkling wines.....per gallon..	0	4	0
Wines, sparkling .....do....	0	5	0
Wines, pontac.....do....	0	2	0
Wines, claret.....do....	0	1	6
Goods (wares and merchandise) not otherwise charged with duty, not prohibited to be imported, and not exempted from duty by Schedule B of this law, for every £100 value.....	7	0	0

Under ordinance No. 14, of 1856, reprints of British copyright works may be imported at a duty of 20 per cent. ad valorem.

Schedule B.—Free list.

Animals, living; bones and horns of animals; books and music, printed; maps and charts; coin and bullion; fresh fruit and vegetables, plants, seeds, bulbs, and specimens illustrative of natural history; fencing wire, iron standards, and all materials intended to be used solely for the purposes of wire fencing; guano and other manures; gums of all descriptions; hides and skins of animals, raw and undressed; ice; India-rubber, unmanufactured; ivory; machinery, or component parts of machinery, to be driven by steam, water, or animal power; ores and minerals, crude, and pig-iron; uniforms and appointments imported by and for the use of any officer of Her Majesty's civil, military, or naval service, serving on full pay in this colony, or for any militia or volunteer forces in this colony; provisions and stores, and all articles of every description imported for the use of Her Majesty's land and sea forces, or for the colonial government, provided the duty otherwise payable thereon would be paid or borne by the treasury of the United Kingdom or the government of this colony; wines and spirits imported or taken out of bond for the use of the governor, and for the use of Her Majesty's military officers serving on full pay in this colony, and also for the use of the officers of Her Majesty's navy on full pay and serving on board any of Her Majesty's ships; subject, however, to such regulations as the collector of customs shall think fit to make; provided, however, that if any such wines or spirits so imported shall be subsequently sold in this colony, except for the use or consumption of any of the officers aforesaid, the same shall, unless duty be first paid thereon, be forfeited. Wool.

Schedule C.—Registration charges on free goods.

On all goods imported or described in Schedule B, except provisions and stores for Her Majesty's forces by land and sea, or the property of and imported by the Government of this colony. At the option of the collector: Per ton 2*s.* or per package, 6*d.*

Schedule D.—Articles prohibited to be imported.

Books, drawings, paintings, prints, or photographs of an immoral or indecent character; coin, base or counterfeit; articles of foreign manufacture bearing the name, marks, or brands of manufacturers resident in the United Kingdom. (Imp. Act 16 and 17 Vic., cap. 107.)

Schedule E.—The transit dues.

Schedule of goods which may be removed from any bonding warehouse, under the provisions of this law, for conveyance beyond the borders of the colony on payment of transit dues upon such goods at the rates herein specified: Spirits—all sorts, sweetened, perfumed, or otherwise, liqueurs and cordials, except Hollands gin, 6*d.* per gallon; Hollands gin, 3*d.* per gallon; tea, 1*d.* per pound; manufactured tobacco and cigars, 6*d.* per pound; wines, 6*d.* per gallon.

SUGAR INTERESTS OF CUBA

REPORT OF CONSUL-GENERAL WILLIAMS.

I inclose a copy of F. O. Light's monthly reports of the beet-root sugar industry of Europe, published at Magdeburg, and dated the 20th of November, 1886,* as also, for the like purposes of contract and comparison, an accompanying extract of my dispatch No. 291, of the same date of the year 1875, the interval between the two dates being of exactly eleven years.

You will please observe that what I called in 1875 in the said dispatch the "enormous amount of $1,100,000 tons" of beet-root sugar produced the year 1874–'75 in Europe, will, according to the inclosed report of Mr. Light, reach the coming year to 2,580,000 tons, which is equivalent to an increase of 134.54 per cent. during the last eleven years.

It is likewise observable that according to the best statistical data of the exports of Cuba attainable in 1875, the percentage of its sugar crop sent in that year for sale to the United States, as reported in my said dispatch, was 81 per cent., whereas the similar data, more attainable, and as stated in my report of 25th June ultimo, dispatch No. 427, published in the consular report, show that Cuba has shipped to the United States during the present year nearly 94 per cent. of her sugar and molasses crop, leaving a remainder of only 6 per cent., which was shipped to other countries during the same period. One hundred unit of sugar came exports from Cuba.

From these facts several very important economic relations are deducible: (1) With the exception of the very limited sugar market of the Spanish Peninsula, Cuba is completely shut out of the European sugar market; Great Britain, France, Germany, Austria and Hungary, Russia, Belgium, Holland, Denmark, and Sweden and Norway, being no longer consumers of Cuban sugar; (2) that, practically, the island is now entirely dependent upon the market of the United States in which to sell its sugar-cane products. Also, that the existence of the sugar plantations, the railroads used in transporting the products of the plantations to the shipping ports of the island, the export and import trades of Cuba based thereon, each including hundreds of minor industries, such as the agricultural and mechanic trades, store-houses, wharves, and lighters, stevedores, brokers, clerks, bankers, real estate owners, and shopkeepers of all kinds, and holders of the public debt, are now all directly related to the market of the United States, to the extent of 94 per cent. for their employment; and only 6 per cent. to other countries, of these mostly Spain, simply for the reason that sugar is the principal economic basis of all those interests.

It is with the knowledge of this fact of the dependence of Cuba upon the United States to the extent of 94 per cent. for a market in which to sell, added to the apprehension that that market may also be taken by other sugar-producing countries from Cuba, that leads its inhabitants to urge upon the Madrid Government the immediate negotiation of a treaty of commerce to put the island in more harmonious relationship with its natural market, the United States.

RAMON O. WILLIAMS,
Consul-General.

UNITED STATES CONSULATE-GENERAL.
Havana, December 28, 1886.

* Not reprinted.

[Inclosure.—Extract from dispatch No. 291, dated Havana, November 20, 1875.]

Mr. Williams to Mr. Cadwalader.

SIR: * * * The beet-root production during the last year in Europe has reached the enormous amount of 1,100,000 tons of sugar, and the coming crop there, according to the estimates of their statisticians, will show another increase of production of at least 10 per cent. over that of last year. Should this be realized, then scarcely any market at all will be left in Europe for Cuba and Porto Rico, and as a consequence, almost their entire crop will be forced for sale into the market of the United States, and as the amount of supply will determine the price to be paid by the consumer, and not the cost of production, prices must inevitably fall to a low standard, unless prevented by some unexpected event. In this some advantage will accrue to the general material interests of the United States. As a partial compensation for the injuries inflicted upon our commerce by the action of the differential tariff which reigns here, and acting like a turbine wheel, receiving the force of impulse at one angle and deflecting it at another, nearly all that balance of trade which should be returned to the United States as the reciprocal for the seventy-odd million dollars, comprised principally of sugar and molasses sold there by Cuba and Porto Rico, is diverted and imported by its action to Spain and her dependencies, with the immensity of commercial moving power contained therein, for the invigoration and development of their agricultural, industrial, commercial and maritime interests.

From the joint causes herein mentioned, which operating day by day with increased activity, the probability is that next year's business will turn out even worse than that of the past, and it therefore remains to be seen if the remedial measures proposed by the decree, subject of this dispatch, will be less empiric or more curative of the ills now affecting the body politic of this island than the many measures that have to the same end hitherto been used by these authorities.

I have, &c.,

RAMON O. WILLIAMS,
Vice-Consul-General.

FRUIT INTERESTS OF NICARAGUA.

REPORT OF CONSUL BROWN.

Not only are oranges, bananas, pineapples, and cocoanuts, but many others, such as plantains, lemons, limes, mangoes, alligator pears, and bread-fruit, produced in various parts of this district, from this port to Capo Gracias on the north and to San Carlos on the west, abundantly and of good quality.

But, as yet, it is of bananas and cocoanuts only that it can be said that any of them are of commercial importance.

Cocoanuts have been shipped in small quantities from this district for many years.

BANANAS.

The shipment of bananas and their cultivation for exportation began in 1883. In the absence of statistics as to the production of tropical fruits, it is difficult to even approximate the average yearly amount of such production. But little aid can be obtained from the meager evidence of the actual exports of bananas and cocoanuts, or through inquiries made of persons who have resided long on this coast. But to show what are the possibilities of increasing the production of such fruit in this district, as demonstrated in the cultivation of bananas, I submit the following table of the quantities and values of the fruit referred to in the circular, exported from the district during 1883–'84–'85, and the first three quarters of 1886.

The values stated in the table are United States gold, reduced from the invoiced value in currency of Nicaragua, at the rate of 80 cents, to Peruvian sol, for 1883 to 1885, and at the rate of 75 cents for 1886.

It covers the total exportation from the district and a recapitulation, by ports, of shipment.

Shipment of oranges, pineapples, bananas, and cocoanuts from the consular district of San Juan del Norte and Bluefields, Nicaragua, to the United States, from January 1, 1883, to September 30, 1886.

Years.	Oranges.		Pineapples.		Bananas.		Cocoanuts.	
	Number.	Value.	Number.	Value.	Bunches.	Value.	Number.	Value.
1883					8,000	$3,200 00	291,200	$5,633 50
1884	20,000	$80 00	2,000	$12 80	40,000	16,000 00	696,062	13,924 60
1885					45,147	18,058 80	547,310	8,756 96
1886					102,034	48,862 75	400,669	8,314 25
Total	20,000	80 00	2,000	12 80	195,181	86,121 55	1,935,261	36,629 25
[From San Juan del Norte, Nicaragua.]								
1883							41,200	$633 50
1884							196,062	3,924 60
1885							208,332	3,333 20
1886							187,000	3,333 75
Total							632,614	11,980 15
[From Bluefields, Mosquito Reservation, Nicaragua.]								
1883					8,000	$3,200 00	250,000	$4,800 00
1884	20,000	$80 00	2,000	$12 80	40,000	16,000 00	500,000	10,000 00
1885					45,147	18,058 80	338,978	5,423 60
1886					102,034	48,862 75	213,669	4,425 50
Total	20,000	80 00	2,000	12 80	195,181	86,121 55	1,302,647	24,649 10
Grand total	20,000	80 00	2,000	12 80	195,181	86,121 55	1,935,261	36,629 25

While no correct estimate can be made of the yearly production of the oranges and pineapples grown in this district, it can be said that there are more produced than are needed for local consumption. Oranges are growing near every habitation throughout the district, and pineapples grow successfully in many parts of it. Many oranges, lemons, and limes go to waste for want of gathering.

The average annual production of bananas may be put at 500,000 bunches. That of cocoanuts may be estimated at 1,500,000. The principal cocals, or cocoanut plantations, are on the coast.

A large number of nuts are destroyed while green to drink the milk, which is regarded as a very refreshing beverage; and many of the matured nuts are used to make cocoanut oil, which is very generally used in this country in preference to lard for cooking purposes, and hundreds are blown from the trees and lost during the continuance of the prevailing strong winds on this coast, little care being taken to save them. The production of oranges and pineapples has not increased materially in recent years, while that of cocoanuts has increased a little beyond the increase due to natural causes, because some attention has been given within the last few years to the setting out of cocoanut trees.

The increase in the production of bananas since 1883 is worthy of notice, as it was at the mid part of that year that the first attempt was made to cultivate fruit for export. That experiment of growing bananas for profit was in the beginning limited to a small tract of land on the banks of the Bluefields River, situated about 30 miles northwest of Bluefields and within the boundaries of the Mosquito Reservation. But the success which has attended that initiative step of an industry

has prompted others to cultivate bananas for exportation so generally that now all of the lands on the banks of the Bluefields River and some of its branches, supposed to be adaptable to the production of that fruit, are being transformed into plantations, and attempts are being made to extend the fields of operations for that industry into other parts of the reservation.

At Pearl Lagoon and Great River plantations have been started, and are so far advanced that the first cutting of bananas for export will be made in the early part of 1887.

This industry owes its origin to the enterprise of parties from New Orleans. They secured a lease of the tract of land, 3 miles frontage on the river above referred to, and organized a company known as the Mosquito Fruit Company, primarily for the cultivation of bananas for export.

The most of the stock was taken by Americans, and the principal part of the money to put it in operation came from the States.

Some of the natives of the Rescroo took shares, but with doubts as to the prospective profit of the enterprise. They were all urged to cultivate bananas, and assured of a market for all they could produce.

The first shipment of bananas was made in the latter part of 1883, and I am told that it was comprised of not more than 500 bunches. The Lucy P. Miller, under a contract between the company and Miller & Henderson, of New Orleans, took all the bananas at the rate of 50 cents, currency of Nicaragua, per bunch.

This steamer at first made monthly trips between New Orleans and the plantations up the river; afterwards, as the production and plantations increased, her trips were increased to eighteen-day trips.

In 1855 the Bluefields' bananas had achieved so good a name that Machoca Brother, of New Orleans, and Henry Brothers, of Baltimore, became competitors for the purchase of bananas, and a new contract was made with Miller & Henderson to pay 60 cents a bunch. After this Henry Brothers put a steamer in the trade between Baltimore and Bluefields and Corn Island, and paid 50 cents, gold, a bunch for the fruit. Subsequently, after the wreck of the steamship San Andres, they and others put on additional steamers, so there are now six steamers in that trade plying between the Mosquito coast and ports in the United States, and making monthly trips.

Two of these steamers are from New Orleans, three from Baltimore and Philadelphia alternately, and one direct from New York.

The two vessels from New Orleans and the one from New York sail under the flag of the United States; the others are foreign built, and display the flag of Great Britain.

The persons who compose the several firms and own the vessels and buy the fruit are citizens of the United States. They are Miller & Henderson, of New Orleans; Henry Brothers, of Baltimore and Philadelphia; and Wilson & Miller, of New Orleans and New York.

These fruit steamers, after they cross the bar near the mouth of Bluefields River, about 8 miles distant from the town of Bluefields, ascend the river to the several plantations, and receive the bananas freshly cut, not only from the large dealers, but also from the small growers, who send canoes containing from five bunches upwards of bananas to meet the steamer as soon as her presence in the river is known. The fruit thus loaded remains undisturbed until it reaches its destination in the States.

In crossing the bar the vessels usually find only nine or ten feet of water at the mouth of the river, but beyond that point for about 60

miles towards its source the river is wide and carries a depth of 50 feet on the average, and is easily navigated by sea-going steamers.

In view of these conditions it may be said that they are more favorable to the extension of the export of this product from the plantations on Bluefields River than from those at Port Lagoon and Great River. There is no deep water in the approaches to the last-named plantation, so that the fruit will have to be transferred from the plantations to the sea-going steamer by the use of light-draught launches or lighters, which will necessitate more handling of it, and thereby increase the chances of its being injured, and add to the expenses of transportation.

Still it is confidently expected by those directly interested in those plantations that when the fruit shall be ready for exportation these obstacles will be surmounted.

The production of each kind of fruit mentioned in the circular could be extended, provided the efforts necessary to that end are made. The production of the most of them, such as it now is, has been aided but a very little by the labor of man

The climate of the district being very favorable to the growth of tropical fruit, the soil in the larger portion of it can very readily be adapted to such production after the ground has been cleared.

And when it is seen that such products can be exported with profit, land which is now unproductive, and land which is rapidly becoming so, may be made to supply revenue to take the place of that which was formerly derived from the export of rubber.

It is a well-settled conviction that the rubber trees throughout the country have been very generally destroyed through the unskillful and reckless mode of tapping them.

The production of such fruit could be increased in this district, and improved in quality by the appropriation of a moderate amount of capital, labor, and enterprise. These conditions do not usually characterize the dwellers on this coast; the climate of the tropics seems to have imparted to them a spirit of contentment which leaves them satisfied with just what nature gives spontaneously, and seldom laboring for more.

Such a factor as organized labor, which in a projected undertaking can be counted upon with reliance, is not easy to be contracted for in this country, and such a manifestation of it as is necessary to develop an industry will undoubtedly have to be introduced here by foreigners. And this is being done to a limited degree already. In some of the plantations American plows, mules, and laborers from Louisiana are being used with beneficial results.

While heretofore but very little effort has been made to multiply the production of oranges or pineapples, the promising result of the trial in the cultivation of bananas has led to the planting of orange trees in some parts of the reservation, and similar steps have been taken as to the production of pineapples, especially in the vicinity of Bluefields and Pearl Lagoon.

From the pineapple plant already commenced at the last-named place it is estimated that there could be shipped 6,000 pineapples monthly during the season, June, July, and August, that fruit requiring nine months to mature in this district.

PRICES.

The price of bananas at Bluefields and Corn Island, the only places of shipment of that product at present, is 50 cents in American gold per bunch, delivered at the plantations.

By the rules of the trade, eight clusters, or hands, of bananas to the bunch count as a full branch; bunches having only five to eight hands are a half bunch; bunches of less than five clusters are styled third class, the others, respectively, first class and second class.

The average price of cocoanuts at this port and along the coast for some years has been $12 per thousand in American gold, but during the current years cocoanuts have been sold at this port as high as $30 per thousand, United States gold.

Oranges sell here for local consumption at an average rate and price of 30 cents a hundred in currency of Nicaragua.

Pineapples sell at 30 cents apiece in currency of the country.

SEASON FOR SHIPMENT.

The duration of the season for the shipment of bananas may be said to continue throughout the entire year.

The same thing could be said correctly of cocoanuts, so far as the production of that product is considered.

But since the principal part of the nuts exported are taken from the cocals on the coast, the shipment continuously throughout the year is impeded by the lack of good harbors on the coast, especially during the months in which stormy weather and rough seas make it impracticable for vessels to attempt to embark such cargo. Thus at this port it is usual to ship cocoanuts from "Kirkland's Walk" only during the months of April, May, June, and September.

VARIETIES OF FRUITS.

Of the varieties of oranges grown in this district I can say little more than that they are the ordinary sweet and sour oranges, and that they are of good quality and ordinary size.

The names by which the pineapples to be found in this district are known as the Sugar Loaf, White Pino, and Horse Pino, which grow along the San Juan and San Juanillo Rivers, and the Black Prince, and Silk Grass, which are grown near Pearl Lagoon. All of these are said to be of good quality and exportable.

There are no distinctly marked varieties of cocoanuts in this district.

The cocoanuts from "Kirkland's Walk," the most extensive plantation in the district, are very large, and have good reputation with the importers of that product in the New York market. This, I am told, is not only because of the large size of the nuts, but because they can be manipulated more economically than the ordinary nut; the meat can be removed from the shell by merely cracking it, and in this way it is usual to secure an unbroken sphere of the meat, whereas with the ordinary nut consumed in manufacturing trade, the meat has to be picked off the shell by the use of machinery.

The cocoanuts produced at Corn Island are smaller than the above named, but of a marketable quality.

The bananas grown in the district are the ordinary yellow banana, and a few of the red, and known by the names of Geineo, Patriota, Martinique, Hard Lump, and Banana.

The last are grown on the Bluefields River plantations, and the one called "Banana" is the one especially cultivated in that district for exportation. It is a yellow banana, 6 to 8 inches in lengh, has a thick skin, a sweet flavor, and does not ripen so quickly in transportation as the others, and it is produced in very large bunches, some of them hav-

ing twelve clusters to the bunch, and for these reasons it is preferred for export. It is claimed that in the United States market it stands ahead of the Port Simon banana. The other varieties are of good quality for local consumption, but are not cultivated for export because they ripen too quickly in transportation.

Those grown at Corn Island, surrounded by the sea, are smaller, have thinner skins, and are produced in smaller bunches, but they are an excellent quality of yellow banana, and very salable, although requiring very careful handling, as do all such fruit.

TRANSPORTING FRUIT.

All bananas exported are sent while green, and require to be handled as little as possible. They are stowed in the vessel in such manner that there may be a free circulation of air and no exposure to the sun. A slight bruise on the skin of the green banana, which may be scarcely noticeable when made, develops in the ripe fruit into a black spot, which tends to lessen the salability of the fruit in the market.

Exposure to the rays of the sun ripens the fruit.

Since the middle of 1883, when the cultivation for export may be said to have commenced, as may be seen from the statement of shipment of fruit, the average yearly shipment of bananas has been 68,000 bunches. This average will be very much greater by the end of 1887.

The annual average of the shipment of cocoanuts during the same period was 500,000; during the period from 1874 to September 30, 1886, the average yearly shipment of nuts through the port of San Juan del Norte was 350,000.

All fruit exported from this district is shipped to the United States. The bananas go to the ports of New Orleans, Baltimore, Philadelphia, and New York, and from those ports they are distributed throughout the States.

When the exportation of bananas commenced all of that fruit entered at the port of New Orleans. The ripe fruit was sold for local consumption in that city, and the green portion of the cargo, sold "on arrival of the steamer," was promptly loaded in the cars awaiting the steamers' coming and dispatched rapidly to Chicago, Saint Louis, and points of distribution in the North and West.

From what has been stated already it will be seen that now other ports are sharing this trade with New Orleans. All cocoanuts exported from this district as a rule go to New York, although occasionally a few are bought by the New Orleans commission merchants. Better prices are paid by New York dealers.

The failure of the cocoanut crop of Jamaica and the increased demand and price for nuts in the New York market during this year somewhat increased the export of that product, and brought here agents from that city seeking to make with the managers of cocals three-year contracts for the sale of the entire product of such plantations during said period. This action had also the effect to augment the planting of cocoanuts, which was commenced on the coast a few years ago.

The facilities for shipping fruit to the United States from this district are at this port limited to the steamship Arran, of the Atlas Line.

At Bluefields and Corn Island, in addition to the Arran and the Maria P., which runs as a fruiter between New Orleans and Honduras and making occasional trips to Bluefields, there are the six steamers (already referred to as exclusively plying between the Mosquito coast

and ports of the United States to meet the requirements of the banana trade) and the sailing vessels which trade on the coast.

The bananas are transported by the steamers to insure the speediest delivery possible.

The cocoanuts are shipped both by the steamers and the sailing vessels.

COCOANUTS.

Cocoanuts are frequently bought by the trading vessels at Corn Island and Warmta plantations; many of them trade along the entire coast, and include San Andres and Boca del Toro in the voyage, and may often make one of those last-named ports the port of direct departure for the States; and collecting the cargo for the home voyage, if they do not get a consular invoice except at San Andres or Boca del Toro, it may result, as I think it is probable, that there is some produce of Nicaragua exported which is not credited to her.

The production of the larger cocals and the amount of the exportation thereof could be extended if the lessees of such property had longer terms than three years.

All of such cocals in this part of Nicaragua are made on lands which are leased from the local government, the established term of three years' lease being sold at auction to the highest bidder.

I find that a tenure of possession of the land of so short and uncertain duration does not justify the lessees in incurring the expense necessary to surmount the obstacles inseparable from the loading of such cargo on this coast; nor does it warrant the expenditure that would be required to procure the machinery appropriate to making oil from the nuts which are not exportable for any other use.

The above conditions are particularly true with reference to the cocal known for years as "Kirkland's Walk."

It derives its name from that of an American, who at that place made the first attempt on this coast to establish a cocoanut plantation, availing himself for that purpose of a beginning made, so runs the tradition, by a cargo of cocoanuts drifted ashore from a wrecked schooner.

Corroboration of this legend is perhaps reflected in a homely saying current among the Mosquito Indians when they dwelt on this coast. The old men when desiring to characterize one whose pedigree was doubtful and not acceptable, would say, "Him no good; him nothing but a drift cocoanut."

The cocal is situated about seven miles from this port and north of it. It is a strip of the coast 20 miles long by 600 feet wide, commencing at the mouth of Indian River where it empties into the Caribbean Sea and extending north to the mouth of a small creek called Spanish Creek, which also discharges into that sea, which sea and those two streams constitute the boundaries of the cocal.

I am not able to get any one to give me an estimate of the number of cocoanut trees growing on this strip of coast land, more than there are thousands of them as the result of the chance first plant at the sport of the waves and of the hand of man since.

FREIGHTS.

There are no established rates of freight on bananas, as all of that product exported from this district are purchased and paid for at the plantations and taken to the United States by such purchasers in their own vessels, sharing the risk of such cargo with insurance companies.

The freight on cocoanuts shipped to New York from this district is from $4 to $5, American gold, per thousand nuts, no other nuts being exported; the freight on such cargo to New Orleans is $4, American gold, per thousand.

When nuts are carried by sailing vessels the freight is sometimes less.

On the old coffee and cocoa plantations of the San Juan River, plantains and bananas are successfully grown, but there that branch of cultivation is neglected for the causes that those coffee and cocoa plantations have been neglected, and there is a lack of vessels to get such produce to market.

The destruction of the Lower San Juan has been going on for many years, without the adoption of any steps to prevent it or attempt being made to restore this water-way to its original condition, rightly named El Desaguadero (the discharger) of Lake Nicaragua, an important link in the great national water-way across the state connecting the Atlantic and Pacific Oceans.

As a consequence this river has shared the same fate as that of the harbor of San Juan del Norte, and is in a similar ruined condition.

There are also on that river uncleared lands which could be cleared and reduced to the cultivation of bananas at less expense and with less risk of "native fever" than it cost to transform the cane-brakes of Bluefields River into the flourishing plantations which now enrich the banks of that river for miles, despite the popular saying that a soil which engenders fever exhibits a condition favorable to the production of bananas.

WM. A. BROWN,
Consul.

UNITED STATES CONSULATE,
San Juan del Norte, Nicaragua, November 16, 1886.

DEPRECIATION OF MEXICAN SILVER.*

The secretary of fomento, with a laudable vigilance for the public welfare, and seeking a favorable effect in the measures, which in concurrence with the special commission of the chamber of deputies, they have presented to that assembly, to dissipate or diminish the alarming consequences of the depreciation of silver; ordered in the first place its different sections to make special studies, which will illustrate this question. * * * * The secretary of fomento did even more; after having solicited of its illustrious heads of section, their valuable contingent of scientific information, it directed itself to various persons, well known as competent in the different subjects, whose attainments recommended them, requesting their assistance in such a patriotic task. With a collection of these studies, the said ministry has formed a book of 250 pages, which is not yet known to the public, and in which there is a valuable treasury of dates, notices, calculations, doctrines, rules, &c., which will contribute much to give a convenient and certain solution to the commercial crisis, and to the important question of the depreciation of silver.

Amongst said studies is found one from the pen of the celebrated Dn. Francisco Bulnes.

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* The depreciation in value of the Mexican silver dollar, which is worth at present about 76 cents, has caused and is causing considerable disturbances in all branches of trade throughout Mexico, and the prices of all effects that are imported from foreign countries have risen in most cases fully 25 per cent. This is felt throughout all classes of society, but especially amongst the poorer, as they still receive the same pay for their labor in Mexican money, now that it is reduced in value, as formerly, when it was at par. The above article translated from the Mexican Economist, of the 19th of last November, written by Antonio Carbajal, may be of interest to our business men in the United States.—CHARLES WINSLOW, *Vice-Consul, Guerrero.*

In opposition to the conclusions contained in the greater part of the numerous articles which for the last three months have been written on the actual crisis, Sr. Bulnes is of the opinion that our mercantile condition is much more favorable for the country to-day than it was in 1873; and as a basis of his argument he presents the following table of prices which different effects have been worth in the different epochs of 1873 and 1885:

Prices in francs.

Articles.	1873.	1885.	Decline since 1873.
			Per cent.
Wheat (kilometric quintal)	41.50	21.25	49
Oil of colewort seed (kilometric quintal)	87.25	39.45	55
Oil of flaxseed (kilometric quintal)	88.00	51.55	41
Sugar (kilometric quintal)	62.50	41.25	43
Cast-iron	113.60	43.00	62
Tin	210.00	150.00	22
Copper	235.00	106.75	55
Lead	60.00	30.00	50
Zinc	69.50	40.00	45
Iron	30.50	12.00	60
Cotton	107.50	57.00	40
Silk	115.00	57.00	50
Coffee	126.50	45.50	67

Price of goods in sterling pounds.

Articles.	1873.	1885.	Decline since 1873.
	£ s. d.	£ s. d.	*Per cent.*
Wools (2,240 pounds)	23 0 0	10 10 0	65
Hemp (ton)	36 10 0	28 5 0	23
Flax thread (for packages)	0 5 3	0 3 2	40
Undressed flax (for tons)	0 3 2½	0 2 5½	26

The value of exports from Mexico in 1874–'75 was $37,657,723.

Abstracting from this sum the 10,000,000 which were sent to foreign ports to pay dividends on foreign enterprises, banks, &c., exportations made in the greater part by the great mining companies and railroads, there remains to pay for the importations the sum of—

To pay the importations	$37,657,723
Value of importations verified from 1884 to 1885, at the prices of 1875	46,273,932
Gain in favor of Mexico	8,616,208

As is seen our condition is very favorable compared to that of 1875, a year in which our silver was at a par, and the $8,500,000, measures the advantages obtained over that epoch, besides the increase of $14,000,000 obtained in our whole exportation. I have calculated the discount at 25 per cent., since that is what the silver was rated at between 1884 and 1885. It was not possible for me to calculate at the rate of 35 per cent., since neither I or anybody else can even know the effect of this decrease upon the rest of the prices; and to pretend to deduce logical consequences in the absence of the principal data would be ridiculous and above all unscientific.

The result obtained appears clearer, from the following estimate:

The medium depreciation in prices of foreign commodities imported in 1885 is 34 per cent. The medium depreciation of our total exportation, the silver being at 25 per cent. discount, is 14 per cent. Difference in our favor, 20 per cent. or the fifth part of the value of the exportation, that is to say, the 8,000,000 of the former calculation.

The study of economics has transformed the question from the heights of a confused and complex problem to the expression of a simple arithmetical problem capable of being explained in our schools of primary instruction. It can be thus enunciated: Two merchants named Mexico and Foreigner exchange annually cotton shirtings for silver dollars. Mexico delivers $100, and receives from Foreigner 100 pieces of cotton shirting. By the depreciation of silver it results that Foreigner only wishes to accept the Mexican dollar for 86 cents for each one, but gives in exchange each piece of cotton shirting for 66 cents. Which of the two will be the loser?

In the resolution of this problem no commentaries are necessary.

Without doubt there is really a crisis in society, and especially in our commerce, but this does not depend on the depreciation of the silver, but on the clash of our fiscal laws with the new economical evolution.

If Mr. Bulnes, in speaking of the clash of our fiscal laws with the new economic evolution, refers to those which govern our interior commerce, we entirely agree with his observation, but if he alludes solely, as it appears, to the tariff which regulates our mercantile relations with foreign countries, we differ essentially in opinion with our estimable friend, since we do not believe that the general statute for custom-houses is to blame for the crisis which oppresses us. We could cite, if it were appropriate in this place, in defense of our opinion, the value of the importations in 1880, in which the old tariff ruled, and compare them with those of 1885, in which the new one has ruled; and the result would demonstrate that those have not diminished, but on the contrary have increased; and if we extend such comparison to the year 1873, which served as a type of estimation to Mr. Bulnes, the difference in our favor would be still much more sensible, which would prove that the application of the actual tariff has not had the untoward consequences atrributed to it by that well-informed writer. We do believe, and we have said so in another article, that it will be very useful to make a prudent revision of the quotas of all the effects which can effect our mineral or manufacturing industry, but between this and condemning with such severity that fiscal law there is a great difference.

The second part of the important study of Mr. Bulnes refers to the mining industry, and its object is to show that if it is certain that silver is worth less to-day in foreign markets in exchange, its cost of production is much less and more than compensates for its depreciation. I give the dates and reasons which are found in his report to sustain his arguments.

The production of silver is like that of wheat. Mexico is in the position of the United States, where the value of grain has constantly fallen without there being in the American press one periodical which represents the State of California as ruined. Riches accumulate by the profits of capital, and these depend not on the prices, but on the relation between the cost of production of a merchandise and its value. If on diminishing the value the cost of production has even more diminished, the profit is greater, and the industry is said to be in a flourishing state.

It is evident that we have great mineral richness, but not from the quality of the minerals of silver but from their prodigious abundance; the quality of ore is generally low—3 to 12 marks for every 20 quintals. The argentiferous lead ores exist in great quantities throughout the country, and especially in the State of Sonora. I am going to make a comparison of the mineral industry in that state from the year 1875 up to the present. The ore must be carried a distance of 30 leagues, which occasions an expense of transportation, on a bad road, of $20 at least, for each ton. The weight of the substances to be mixed, corresponding to a thousand kilograms of the mineral, was 3,700 kilograms, and the quantity of fuel consumed in the melting equalled the weight of the material melted, that is to say, 4,700 kilograms of wood.

One hundred tons of ore, merely for transportation to the hacienda of extraction, fuel, and hand labor, and it being necessary to melt 100 tons to employ 20 Catalan kilns, cost as follows:

Transportation of 100 tons	$2,000
Fuel	2,300
Four men for each kiln in twenty-four hours; 20 ovens, 75 cents each man	60
Total	4,360

If we add cost of extraction, general costs, costs of direction, &c., the ore at 6 marcos for heap would scarcely cover expenses.

At present the concentrators produce concentration up to 17 per cent., which reduces considerably the weight of transportation, and, besides, this is now made by the railroad of Nogales.

The Piltz oven consumes the twelfth part of the material necessary to feed a Catalan oven, and melts up to 50 tons in 24 hours. As a result, for the 100 tons it is only necessary to employ 2 ovens in place of 20, and 8 men in place of 80.

As a result, then, for the expense of transportation, fuel, and cost of work of 100 tons, we have as follows:

The 100 tons remain reduced to 17 for the concentrator, and its transportation at the rate of 3 cents gives	$61 20
Fuel	30 00
Hand labor	6 00
Total	97 20
Cost in 1875	4,360 00
Difference	4,261 80

Science has converted a mineral district that could not be worked, because its ores had a grade of about 4 marks, into a very rich exploitation. Since then, in all our districts where there are silver leads the Piltz ovens and the concentrators can be employed, and having, as I have before said, a prodigious profusion of silver-lead ores in the country, the depreciation of the silver can be compared to the diminution of the cost of the production.

For the district of Sonora, to which I have alluded, the difference only in the expense of transportation and melting has been for 100 every tons $4,262, which is the same as 98 per cent. of the expenses of the production.

We have in the republic a great quantity of abandoned lands whose richness is inferior to 3 marks.

These are the mines, which have not repaid the cost of extraction since our forefathers died; these masses of many thousands of cubic meters of residue without value have now been converted into an opulent inheritance which we have already commenced to enjoy. Besides there are a great number of mines in good condition which were abandoned because of the inferior quality of ore, and to-day offer themselves to us to work. Mining has not suffered with the depreciation, since at the same time the industrial evolution has compensated it with advantages diminishing the cost of production, and at present obtains greater gains than in the epoch in which our dollar was at a premium in European markets. The Secretary de Fomento, with his habitual diligence in obtaining information which may favor the mining industry, directed a circular to the mining deputations of the republic asking for information as to the condition of so important a branch of riches. I give here the answers received up to date, in a condensed form:

Chihuahua: Cantons of Arteaga, Matamoros, and Mina; want of capital; excessive burdens.

Guanajuato: Excessive taxes.

Zacculpam: Want of capital.

Catorce: Heavy burdens and want of ways of communication.

Sinaloa: San Ignacio; want of capital.

Sonora: District of Altar; want of capital; work, with foreign capital, suspended through hindrances placed by the new orders of custom houses.

Sonora: District of Guayamas; want of laborers owing to the rebellion of Jaquis Indians.

Sonora: Hermosillo; want of capital; serious burdens.

Zacatecas: Mazapil; want of capital and of suitable measures of exploitation.

Zacatecas: Nieves; want of capital.

Zacatecas and Villanueva: Want of capital and excessive burdens.

It is not, then, the depreciation of silver which affects our mining industry, but the want of capital and the excessive burdens; these will always drive away capital.

Mr. Bulnes afterwards proceeds to occupy himself with the important question of wages, and from the extensive part of his report which is dedicated to this object we extract the following paragraphs which appear to us the most interesting, even though we do not agree with many of the ideas which they contain regarding the causes of the bad condition in which our laboring classes live.

Before continuing, it is indispensable to pay attention to the following comparison of prices:

Articles.	American.	Mexican.
Wheat, carga..... per 300 pounds..	$3 00	$8 00
Corn, carga..... do.....	2 00	4 00
Tallow, arroba..... per 25 pounds..	2 00	4 00
Lard..... per pound..	10	18
Potatoes..... carga..	2 00	5 00
Domestic cotton (cloth) shirtings, vara..... per yard..	04	12½

This comparison authorizes us to affirm that 10,000,000 Mexicans are richer than 10,000,000 Americans; since, being the legitimate possessors of these articles in equal quantities, and our wheat, our corn, our cloth, in one word, our articles of production, are worth more than the same American articles, we are richer. According to this logic pertaining to practical men we have been guided for ages.

If the object is to possess dear things—and in this consists riches—we elevate by the law, that is to say, the tariff of the Mexican production, and we will make the riches of Mexico.

This has been the plan, the programme, the fundamental idea of our public men since the independence—men not political economists, but practical.

The political economists, who do not pass beyond being theorists according to the word of attack of its enemies, say value is not an intrinsic quality, but relative to the necessities and desires of men; things are not rich nor poor, but men are.

The workman whose labor has the power of acquiring sufficient to obtain a good subsistence, a good residence, good clothing, which can feed and clothe his family, and even economize something, is a rich workman, a laborer with means, even when these goods which he consumes are worth little or much.

On the contrary, the workman that with the same efforts has scarcely enough food, a mat on which to sleep, and goes about almost naked, is miserable, although the corn and the cloth that he consumes are worth more than the cloth and the corn produced in other nations. The usual wages in Mexico is 25 cents a day; in the United States it is $1.50. According to the political economists, the work of the American workman, valued in wheat, is worth fifteen times more than the work of the Mexican workman; valued in corn, is worth twelve times more; its value in cotton cloth nineteen times more. We take as an entity the consumption of the Mexican journeyman, applying 75 per cent. of his salary for food and 25 per cent. for clothing, and then we can affirm that the power of acquisition of our journeymen is fourteen times less than that of the American journeymen, or, what is the same, fourteen days of labor compensate a Mexican with the same amount of effects that an American obtains in one day, since it is necessary to notice that the American works only ten hours each day. This estimate illustrates even to the bottom of our gloomy social condition. But the working of the tariff is even more unfortunate.

If the owners had taken advantage, we would have a proprietary class immensely rich. The American agriculturer has counterbalanced the high salaries and the low prices by diminishing the cost of production; he has studied the soils and has given them the appropriate cultivation; has diminished labor by careful culture; has forwarded it by machines; has made it cheap, substituting the yoke of oxen with a steam-engine; has appropriated natural agents and scientific principles, and controls their exploitation.

Our agriculturists, to the contrary, look to the sky, strike on the bells of cathedral to ask Santa Maria to send water, to judge whether they will have a crop, and hope all from the protection of the tariff, which will drive away every competitor that pretends to recompense better our efforts.

Protection has triumphed in all our political economy; the majority of our agriculturists are debilitated every day more by the terrible usury of the farms; the ideal is realized; all ours is dear; (*todo lo nuestro es caro*) and for the poor classes, which protection was to foster, it has succeeded in making the greater part of its work unproductive.

The medium salary for half a day of the American field woman is 25 cents, or 12 kilograms of wheat.

The Mexican working woman, bound to her metate, passes at least six hours daily, half a day of work, grinding 6 kilograms of corn, work equivalent to that of a steam-engine for six minutes, and at an expense of five-tenths of a cent. This is the value of the work of our Indian women, which valued in wheat and compared with the value of the work of the American women is 125 times less.

The work of 4,000,000 of Indian women bound to their metate is paid what 32,000 working women earn in the United States. It is seen from this what an enormous difference capital exerts over human labor in our country compared with that of the United States. And without doubt our agricultural products of chief necessity are worth much, and in effect are worth so much that in comparison with them the Mexican man is worth nothing. But these are wealth according to practical men.

THE MERCANTILE CRISIS AND DEPRECIATION OF SILVER IN MEXICO.*

[Translated from Mexican Economist of November 5, 1886.]

Messrs. Barroso and Crespo commence by saying that all the nations of the world are suffering at present from the consequences of an intense commercial crisis, and in effect demonstrate in figures the present condition of the foreign traffic of the principal mercantile nations, which has continued diminishing constantly since the year 1873 up to date, when it appears to have reached the most acute period of the crisis. What are the reasons of that intense general depression, and what is the cause which has originated the mercantile crisis? the authors of the study ask. They do not presume to answer conclusively, but with great discretion investigate the opinions which the statisticians have emitted, to explain the origin of the crisis of which all complain.

The bimetallists believe that this has not been produced by natural causes, but simply by Government measures, with deplorable results, and assure us that the article of a law or the clauses of a treaty can transform the actual misery into an increasing and universal prosperity.

Others see in the crisis only the reaction produced by the eternal law of equilibrium after a period of abundance and enthusiasm, the symptoms of a depression that with a certain fatal periodicity accompany the growth and development of populations, which is not realized according to them, but by a species of periodical convulsions.

There are those who assert that the want of protection of the respective tariffs is the cause of all, and that prosperity only can be lasting when all and every one of the nations of the globe arrive, as says Leroy Beaulieu, to sell much and buy nothing.

Other observers attribute to the excess of production the origin of the calamity, and complain that the nations are actually producing too much wheat and fabricating too much cloths, as if in that manner humanity should come to lack bread and arrive at nakedness.

But that same diversity of opinion which shows the complexity of the question also demonstrates that the causes are many, and some sufficiently obscure, which have arisen to determine the distressing mercantile condition in which we are found.

The first manifestation of the crisis which the authors of this study mention is the reduction in prices of the principal articles of traffic; and depending on the authority of Goeschen and of Allard they present the following table, which shows the proportion in which the effects mentioned have fallen in price in England, taking as a comparison the years 1873 to 1883:

Articles.	Per cent.	Articles.	Per cent.
Sugar:		Cotton:	
Common	27½	American	39
Fine	31	Indian	32
Tea	52	Skins:	
Coffee	19½	Heavy	14½
Cacao	1	Light	23½
Wheat	25½	Jute	34
Rice	26½	Nitrate of soda	25
Iron	61½	Nitrate of potash	37½
Lead	36	Pit coal	40
Copper	28½	Paper	47½
Tin	31½	Silk	19
Wool:		Mahogany	20½
English	60	Kentucky tobacco	20
Australian	8½		
Alpaca	54½		

*At the suggestion of the secretary of the interior of Mexico, a pamphlet is to be published containing reports relative to the actual mercantile crisis in Mexico. In my former dispatch I inclosed the second of these reports, on the depreciation of silver, translated from the Mexican Economist of November 19, 1886. I now forward the first report, which treats of the mercantile crisis and the depreciation of silver, written by Mr. Augustino Barroso, head of the department of industry and banks, and Mr. Gilbert Crespo Martinez, head of the department of mining of the secretary-

Without doubt the lowering of prices is only one effect; the principal cause, more than in the depreciation of silver, ought to be sought for in the increase of production. I have here the difference in the universal production of some articles in determined periods:

Cotton:		
1860	pounds..	2,398,000,000
1880	do....	4,039,000,000
Coffee:		
1872	tons..	505,000
1881	do....	588,000
Sugar:		
1867	metrical quintals..	16,750,000
1882	do....	25,000,000

There are, besides, other general causes for this lowering of prices: (1) The immense advances in science that, applied to all the industries, have made them realize so great progress; (2) the greater and more economical capacity of production, which agriculture, mining, and industry in general have attained, in consequence of the incessant employment of machines every day more perfected; (3) the more extensive and profounder knowledge which exists at present of the cultivation of the best lands cultivable and of their especial qualities which makes them more suited for the growth of certain plants; the improvements introduced in the methods of cultivation; (4) the better methods which are now used for the exploitation of mines, and in the extraction of minerals; (5) the extraordinary advances of chemistry, which permit actually with advantage the exploitation of mines which thirty years since would have ruined their owners; (6) the greater abundance of movable, enterprising, and daring capital; (7) the great facilities, cheapness, and saving of time, by which transportations are made in railroads and steamships; (8) the more exact knowledge of maritime routes; (9) the advances which digging of canals make in all parts, proportioning and generalizing the cheapest means of transportation; (10) the better installation of ports in general, which so much facilitate and make secure the loading and unloading; (11) the telegraphs and the submarine cables, which, with such extraordinary rapidity, transmit requests and orders; (12) the incessant and vigorous competition which the producers are actually making in benefit of the consumer; and in general the daily advances visible in all phases of human civilization, which so much diminish the costs of production. But neither the increase of the production nor the causes which we have just noted are the only ones which occasion the depression which has made itself felt so much; there is another no less important, or perhaps more important, and it is that the power of acquisition of gold has increased in the last epochs, contributing "also in a sensible manner to the crisis which is suffered."

Messrs. Crespo and Barroso dedicate a large space, and supported by valuable data, to the examination of the causes which have determined the immoderate rise of gold, and the consequent fall of silver; and from so prolix a study they deduce the following conclusions:

It remains, then, perfectly proved that far from there being an excess of precious metals, gold is notably scarce; and silver, although abundant, is very far from presenting itself in the markets in excessive quantities.

It is proved also that the existence of both metals united are not sufficient for the necessities of circulation, as the employment referred to of paper with forced circulation shows, and in no manner is sufficient to give the due legal guaranty to the responsible values which circulate.

Once discovered that the increase in the production of silver is not the principal cause, but only one of so many factors in the depreciation that is suffered, it is clear, as we were saying a moment ago, that there are for it other important reasons which acknowledge another origin, one of the principal and perhaps the chief being that established by the prohibitive laws for the coining and circulation of silver. True it is that it would be very difficult, even in bimetallist countries, to determine a fixed relation between both metals, but the Governments could dictate certain measures

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ship of the interior, translated from the American Economist of November 5, thinking it may be of interest to our mercantile classes generally.

The complete publication will include different articles, prepared by different departments of the secretaryship, treating of different subjects, and presenting under different aspects the questions of the day—one a report from the department of agriculture, considering the crisis under an essentially agricultural aspect, making appropriate suggestions to increase the productions of this branch; one by two intelligent mining engineers, relative to the development which this industry can obtain; one on the fiscal system, and another on foreign exchanges.—Vice-Consul Winslow.

which would facilitate the demand for the metal to-day depreciated without attacking really the economic principles by which societies are governed. Among the measures indicated we will cite as the most important the following:

In the countries which have adopted gold as the type for the measure of value and as the principal medium of exchange, the law could declare that silver money should be of voluntary circulation in unlimited quantities at the actual price which it might have in the market, and of legal tender in limited quantities, extending as much as it may be thought necessary and prudent the sphere of action in which it to-day per forms its functions.

With the object of favoring the demand for silver, and that its circulation should become more acceptable, the subdivisions of this metal should be made of *full value*, to accomplish which its credit would be united to that of the State which puts it into circulation.

It ought not to be of a conventional value, as is yet customary in many nations. This last practice ought not to exist, and can scarcely be tolerated in coins of inferior metals.

In the countries which have established the double type, and in which as a consequence the sums stipulated in the contracts which are formulated in national money can be paid in species of one or another kind, according to relations determined and fixed by the law, there should be a forcible circulation of gold as well as silver in unlimited quantities, but fabricating always of full value the coins of the last metals for reasons analogous to those already expressed.

Without doubt we consider less difficult of realization, and of more immediate results, this idea which they mention further on.

However, there are other causes which have also contributed to the depreciation of silver, as the restrictive laws referred to; all have operated in the same sense of diminishing the applications and as a consequence the demand for the metal. There have been contrived also other means of restoring to silver its value. Among them one of the most important was that indicated by the delegate of Russia to the international monetary conference of 1881, which consists in reducing the sum of small gold money which exists in circulation, not fractioning too much the coinage of this metal, as has been done, and substituting the gold coins of five and ten francs in France and Austria, of five and ten marks in Germany, and of one and two-and-a-half dollars in Mexico and the United States, &c., for an equal value in silver money.

The small gold coins are little appreciated by the public; they are soon spent and easily lost. It would be useful to retire from circulation these coins, whose value ascends in the world to hundreds and millions of dollars, or at the least retire a greater part of them. The demonetized coins could be remelted and transformed into others of greater value; in the mean time silver should be substituted for gold in those small transactions, increasing as a consequence the demand for that metal.

The bad use, and it can be even said the abuse, which has been made of gold, fractionating it in excess to represent values of very little importance and obliging it to discharge the functions of silver, has contributed not a little to the depreciation of this. That extra limitation of the functions of gold has always been prejudicial to the metals which paper has replaced; but perhaps it would have passed unnoticed if what has occurred in the last fifteen years had not come to reveal its true magnitude. It appears certainly very provoking that at the same time in which there has proved to be an increasing scarcity in production of gold there has been tolerated and even still permitted in the fabrication of coins of small value the use of so precious a metal.

The gold, for its high price, is inappropriate for fractioning, and is appropriate for the same reason to represent values of some consideration. In reality this metal should not be substituted for silver, but when the quantities to be paid with it commence to be troublesome, of $10 or $20 or more, for example.

Then the field open to the silver would be much vaster, and its demand would increase in the same proportion.

If all this can be said in respect to gold change, we call it thus, the same, and with greater reason, can be asserted of the emission of bank notes which fractionated until representing a value equal or inferior to the monetary unity adopted occasion to the silver a much greater injury than the gold without proportioning the public advantages worthy of being taken into consideration when small values are treated of. The convenience of the bank note, and the facility with which the public accustom themselves to receive it, cannot be doubted; but, to tell the truth, the first does not constitute a positive advantage except when it is desired to carry with one a large sum, or to verify payments of importance, because the transportation of values in metallic currency present sufficient hardships and inconveniences.

The facility with which the public receives bank notes of all values is rather an inconvenience when the banks do not lend the necessary securities.

The bank notes, for facility of handling as well as for the magnitude of the values which some of them represent, should not be employed but for transactions in which

quantities of important consideration will be exchanged, considering that in rank they arrive to be superior to the same gold whenever the greater part of the coins which are coined of this metal are very far from representing value equivalent to the maximum (highest point) that is found in the bank notes. It cannot be considered but as a truly lamentable abuse, the application which has been made of this powerful instrument of exchange to transactions which could have been verified without any loss, even with the money of an inferior class, called billon (copper coin).

This is what has been observed in some countries, as Italy, Japan, and the United States, where there circulated not many years since notes of the value of one lira and half a lira, of one itzubu and of half an itzubu, and even of 10 cents in the last. At present there circulate notes of 5 cents in Havana, Matanzas, and other places of the Island of Cuba.

The immense injury which this system causes to the precious metals, obliging them to emigrate or to retire from circulation, is easily comprehended.

Unfortunately, Mexico, a country essentially a producer of silver, because mining constitutes, since the discovery of America, and will continue constituting, in our opinion, considering all the especial topographical conditions of our soil, the principal branch of its public riches, appears determined to imitate so pernicious an example, since if it is true that the bank notes which circulate are not inferior in value to that of the corresponding monetary unit, it ought without doubt be understood that those of one, two, and five dollars do great injury to the metal in circulation, which, as is known, is nearly all silver. It is known that the employment of metallic money favors a positive element of riches for the country, which increases the creative power of the nation, and yet in Chihuahua circulate bank notes even of 25 cents in value.

It would be desirous for the increase of the demand for silver that every country studying with all the convenient data their peculiar necessities would resolve the important question of reducing the value of bank bills to a minimum (the lowest point) from which it could not descend without, of course, the development of the transactions to which so powerfully contribute the banking institutions should suffer loss. Would it not be convenient to fix a minimum of $10?

Happily for the demand of the precious metals, it is noted now in some of the great banking institutions that the emission of bank bills are in sufficient harmony with the metallic stocks on hand.

Thus is the case in the Bank of France. Is it the same in all?

The following dates published in these days in the Mexican Economist, and an interesting article upon the depreciation of silver, written by the celebrated Sr. Dn. Antonio Carvajal, give an idea of the actual situation of said bank.

Situation of the coin on hand in the Bank of France, and of its true circulation during the following periods:

Periods.	Stock on hand.	True circulation.
	Francs.	*Francs.*
1870	505,300,000	1,726,000,000
1880	1,794,700,000	2,408,700,000
1885	2,267,300,000	2,784,860,000

As these numbers demonstrate, the quantity of notes in circulation that in 1870 was more than three times greater than the coin on hand, was reduced in 1880 to a little more than 1.5, and in the past year the true circulation was only 1.2 greater than the coin on deposit.

These figures, which refer to the Bank of France, whose situation is better than the greater part of the modern banks, proves sufficiently what was before stated, and shows also, with the greatest clearness, that at the present time the disproportion between the metal on deposit and the quantity of circulating notes on the Bank of France cannot have contributed to the depreciation of silver.

But, treating of banks, the harm which for the demand of the metal the notes of small value cause, and that which can originate the emission of notes, if it is immoderate with respect to the amount deposited, is always certain. Until now all the points treated by the well-informed authors of the study have turned upon causes of a general character and of universal application. Let us see next the examination which they have made of the effects produced in Mexico by the mercantile depression and the fall in silver, and the suggestions which they indicate as favorable, in order that an improvement in our present situation be verified, with which ideas they finish their interesting works.

The difficulties become every day greater for establishing new mineral enterprises and agricultural industries, caused by the scarcity of the necessary machines, apparatus, and tools.

The reflection that if the price of the metal should continue to fall, the actual costs of production would not permit to continue working with advantage only the minerals of (ley) quality sufficiently high, that are not, unfortunately, the most common among us; the fact that if for the present we do not feel the injurious effect of the depreciation of silver in all its intensity depends only on the extraordinary low prices of the crisis, which many foreign effects actually have. The consideration that once normalized these prices are re-established in *prices of equilibrium*, which will probably take place at a no distant epoch, and there must come to weigh upon us the effects of the depreciation, provided that it is true that then this also will be less.

Finally, the fact that the specific quotas of the tariff do not permit us to enjoy but in a very small part the notable falling off of prices of goods, have to contribute in a great measure to their dearness on normalizing those prices of the effects imported; they are all considerations of a very diverse character, which tend to demonstrate what grave consequences the depreciation which our silver has suffered can bring us to. What is anteriorly mentioned, tends more and with justice, to reduce to its just proportions the alarm caused by the crisis, since the great influence which panic always exercises in society, in the sense of increasing and making more lasting the pernicious effects of the economic disturbances, and must never be lost sight of.

Do we suffer by chance, in all its intensity, the depreciation of silver? In part they are compensated for by the exportation which we make of other articles.

Cannot the depreciation of silver, besides, be considered, observing it from another point of view, as the most powerful lever which we can now make use of to stimulate the development of our production?

Is it, perhaps, on another part, perfectly proved that the gold monometalists, although they never arrive to adopt the bimetallism with the proportion of 1—15.5 that bimetallism demands, do not intend in an epoch more or less near adopting it in another relation, fixed by common agreement, or raising at least partially the true blockade which they have placed against silver, permitting it to be freely coined and enter in circulation within more or less ample limits?

Very far from that, the increasing and proved scarcity of gold appears already to be making them resolve on the convenience of introducing some reforms in their monetary systems.

The relations of England and India. Can they not in the next epoch be modified sufficiently, so that the Asiatic countries, so great consumers of silver, return with a new demand to contribute to the rise of the metals?

The most recent notices already indicate a certain improvement in the prices of silver, owing to these or other causes.

Before concluding this imperfect work, especially designed to study in its general phases the actual mercantile crisis and the depreciation of silver, permit us to make some other indications that the same study has suggested to us in respect to the particular influence which it can have upon us—the fall in value of the metal which we principally produce and which is the most important factor of the exportations we make.

As this special investigation has been commended to other sections of this secretaryship, and to different persons, to report conveniently the work, our observations will be merely superficial.

Occupying ourselves in the first place with the mineral industry that, since three years and a half, has been supplying elements to agriculture, developing our public riches, encouraging the movement of our interior commerce, and giving life to our exportations. As it is an industry which serves rather as a solid foundation to the interior progress of our civilization, without being joined with the exterior, but in very small proportions, we do not think that the depreciation of silver is causing it to suffer in a direct manner, and at present, important disturbances. Certainly, since we consider that our day wages for labor have not risen, as also neither the price of the national articles, and that the difference in the type of the exchanges only affects directly foreign effects, of which our mineral negotiations, as well in small as in grand scale, consume relatively very little, it is clear that they must not be feeling very much actually, and in the sense indicated, the losses which the value of silver, which they extract from the bowels of the earth, suffer in the exterior of the country.

The mineral negotiations must be suffering losses on their profits, and if the depreciation of silver should continue increasing it is more than probable that the diminution of the profits would come to limit the production of the silver mines. But as that diminution in the profits does not depend alone on the depreciation of silver that is not in our power to modify; but these contribute also to it, and in a very important manner (other causes which we can influence), and they are:

(1) The cost of production extraordinarily great yet amongst us, in consequence of the state of backwardness in which our mineral industry is generally found.

(2) The heavy expenses of coining, which weigh directly on money, the principal and almost only use of silver actually.

(3) Very essential. The immense amount of taxes, which are most burdensome and absurd, that with so great weight oppresses and renders impossible the development and progress of our mineral industry in the different States of the Federation.

From the moment in which we cannot force, in a decisive manner, our silver to reach a better price abroad, which belongs to us to think over and is for us an obligation which cannot be put aside, because in the future it may arrive to be a question of life and death for our principal industry. What ought to be studied, we repeat, is the most convenient manner to diminish, in the shortest time, the cost of production, the expenses of coining, and the anti-economic taxes placed upon mining.

To obtain the first it is necessary to attract great capitals, that prudently invested can encourage the working of our mines and the development of our metallurgical industry, with all elements, with all the improvements, with all perfections which at the present time the mineral industry in the United States possesses.

To encourage, by as many means as are in reach of the Government, scientific explorations and the careful geological study of our territory.

To obtain the second, diminishing the expenses of the miner in coining, belongs to the Federal Government to study.

And to obtain the third, and reduce the taxes on the mining industry, there has never been presented so brilliant an opportunity as the present, and in which the depreciation of silver exacts it on one side, and on the other the mining legislation in force permits and authorizes.

By only arriving at these three results, which it is in our power to obtain, the mineral negotiations would continue to reap advantages in spite of the depreciation of our silver abroad, where it is considered only as a merchandise, subject as any other to the variations of the markets.

These advantages obtained, the depreciation of silver, in place of being an inconvenience, would rather for us be a true fountain of prosperity.

It concerns us, then, to work conjointly, in order to transform the actual difficulty into facility, in the future choosing the same obstacle to found on it, solidly, the future prosperity which our mining industry, the immovable base of our public riches, so much deserves.

But can silver, in spite of its depreciation, continue lending us services, comparable to those of the last four hundred years, and contribute even by itself to balance our commerce of importations and exportations?

Evidently yes. In the first place, even the mines actually worked, with the exemption from taxes indicated, could easily augment their production, and in the second place there would be worked many mines actually deserted.

Thanks to the dates, notices, and reports which the secretary of fomento has been collecting for various years, with exactly the intention of finding opportunately a satisfactory solution to the complex question of the fall in the price of silver, he has succeeded in ascertaining with certainty that there is in the country a great number of mines abandoned for want of capital. If these mines will be worked as we count upon, a population that in its greater part has been educated in mining, and this constitutes a business sufficiently well known in the country that for traditions, topography of the soil, and customs of many years, is essentially mining, the production of our mines of silver could be doubled or even trebled in a short time, thus re-establishing the lost equilibrium between the amounts exported and imported.

Actually it must not be lost sight of, that of all the goods we can export, that in which can be concentrated the greatest value in the least volume, the most appreciated in whatever market in spite of its actual depreciation, and which, notwithstanding this, is exposed to less intense and frequent fluctuations in its value, is very probably our silver, that for another part does not easily find itself exposed as may happen to whatever of our agricultural productions, to the increase of duties of importation, in the consuming markets, and to be artificially produced by chemical proceedings, as has happened with the cochineal, indigo, and vanilla.

What would the Government have to do to accomplish that? Very little, for certain, since it is already known, and can be seen in the comparative tables which we have presented annexed to this study, that our production of precious metals has increased from 1872 to 1885, a little more than about fifty per cent. Thus it is, that if the tariffs of duties for example of the salts of industrial acids, of explosives, and of some other article should be diminished equitably in such a manner that our mining industry would be benefited; and if it should be sought to alleviate as we have indicated our mining negotiations, of the burdens which press upon them at present, there would be no more to do than to procure the increase of capital dedicated to mining.

Granted; in the moments in which the so elevated type of exchanges is causing many Mexican capitalists, according to the declaration of a journal, to bring to the country immense sums rather, it is true, than to employ them, according to the same

periodical, in investments on building and in mortgages. Is it not indicated more than ever to be the best and most brilliant opportunity of attracting easily to the country foreign capital for the encouragement of our mining and agriculture?

We have just read the report which the secretary of legation of England in our country has sent to his Government, relating to the actual conditions of our Republic, and showing the way to promote the investment here of British capitals in mining, agricultural, and industrial industries. The London press, according to the Mexican Economist, has occupied itself with great attention with this important report, showing thus the interest which Mexico begins to awake in that capital of the financial world.

Perhaps, as a consequence, this would be the best opportunity of attracting to our soil English capital, which not only would infuse new life into our anæmic organism, but would come to counterbalance in our advantage the influence of North American capital.

Being, as it is, a principle perfectly established that the true riches of a country are founded on the development of all its agricultural, mineral, or industrial elements until reaching the greatest sum of production at the least possible cost, it is clear that only the development of that production will permit us to see hereafter, until a certain point, with indifference the fluctuations of prices in Europe and the United States of our most coveted metal.

When our silver mines produce double or treble, and, encouraging our industries, we produce in great quantity gold and the other elements we possess—as copper, lead, tin, and other metals of general consumption and not of difficult exploitation; and the textiles, tobacco, ramie, sugar, coffee, silk, and other agricultural products whose production may be easiest to develop amongst us—then it will be when our commerce will have nothing to suffer by the depreciation of silver abroad.

Meanwhile we judge it to be very difficult, not to say impossible, that the article of a law or the clauses of a treaty can give a satisfactory solution to so complicated a question.

M. ZAPATA VERA.

BASIC SLAG AS A MANURE.

[Transmitted by Consul Jasper Smith, of Newcastle-on-Tyne.]

The discovery that basic slag is a phosphatic manure of the first importance cannot fail to interest agriculturists. It is well worth inquiry whether greater fertility can be imparted to soils, for general crops, by the use of basic slag manure, and at a less cost than by the employment of other phosphatic manures. The answer to this inquiry concerns not only farmers but also iron manufacturers who obtain this slag and the community generally who are benefited by every improvement in agricultural practice.

What is basic slag? It will be recollected that about nine years ago Messrs. Gilchrist and Thomas made public the results of a series of investigations, which showed that the iron ore of Cleveland could be used for the manufacture of steel. The Thomas-Gilchrist process, which is also known as the Basic-Bessemer process, for the elimination of phosphorus from pig-iron, was first proved a success at the great works of Messrs. Bolckow & Vaughan at Middlesbrough, and now at the Eston Steel Works of this firm something like 5,000 tons of basic steel are produced weekly. Not only is the basic process in operation at many English iron works, but it has also been generally adopted in Germany and America. The presence of even a very small quantity of phosphorus in pig-iron is prejudicial to its quality. In order to remove this injurious element the pig-iron, after being melted in a cupola, is run into a large pear-shaped vessel, usually holding about sixteen tons of the molten metal. This vessel, which is called a converter, is movable upon its horizontal axis, is open at the top, and pierced with holes at the bottom. The inside of the converter is lined with a basic material—a composition of lime, magnesia, alumina, and oxide of iron. By means of a powerful blast, air is forced through the molten mass from the bottom of the converter. The oxygen of the air in passing upwards unites with certain of the constituents of the iron, and, amongst others, with phosphorus, which is converted into phosphoric acid. This unites partly with the lime in the lining of the converter, and also with lime which is added to the fused metal at the beginning of the operation. The so-formed phosphate of lime and the oxidized impurities collect on the surface of the molten iron forming the slag, which is removed by "tipping" the converter, leaving the desired product, basic steel. The slag on cooling forms a somewhat brittle mass, of a dark color, which has, until recently, been regarded as worthless. It is usually deposited in heaps near the iron works, to be given away to any one who wished for it, to be broken up for road metal, or to be got rid of by carrying it out to sea, and gen-

erally it is considered to be a residuum of no value whatever to the iron-master. Within the past year, however, a new industry has sprung up on the banks of the Tees, namely, converting the hitherto despised basic slag into a valuable phosphatic manure. At the Carlton Iron Works, North Stockton, the production of basic-slag manure is being successfully carried on, and at the Northeastern Steel Works, Middlesbrough, costly machinery, it is understood, is in course of erection, to be devoted to the same useful purpose.

It is, therefore, most important to ascertain the exact value of this new manure, and its fertilizing qualities, when compared with that of other phosphatic manures, viz, superphosphate, guano, and bone meal. Fortunately, at this opportune moment Professor Dr. Paul Wagner, director of the agricultural laboratory at Darmstadt, has published the details and results of exhaustive investigations respecting the value of basic slag as a manure which have been carried out during the past three years, and in which he has been aided by his able assistants, Doctors F. Becker, R. Dorsch, O. Dieffenbach, and H. Weller. The result of these experiments show, by means of exact scientific methods, the manurial value of basic slag in comparison with other phosphatic manures. An account of these investigations is contained in Professor Wagner's book, which has just been issued in Germany, entitled, "*Die Thomasschlacke, ihre Bedeutung und Anwendung als Düngemittel*" (Thomas Slag, its Importance and Use as a Manure). This work discloses fully the methods by which the learned professor arrives at his conclusions. It is illustrated with diagrams and photographs of plants, as arranged in some of the experiments, so that the reader has placed before him a correct representation of the results obtained by the use of various phosphatic fertilizers.

Professor Wagner has kindly given me permission to state briefly the methods and results of his researches. He proves in the most exhaustive manner the entire worthlessness of field experiments as a means of comparing the respective values of tested manures. The dimensions of field experiments are too large, it being necessary that all factors of vegetation should be controlled; as, for instance, the weather, moisture of the soil, injurious action of insects and animals, sowing and depth of the seed, gathering in of the crops, &c. Experiments are only to be depended upon when all factors of vegetation can be controlled, and where exactly the same regulations can be applied to the same soils, growing the same plants, and being nourished with different fertilizers. In the agricultural laboratory, where experiments are made on a condensed scale, the operator can govern every influence that affects vegetation, give them due consideration, and thus arrive at an absolutely scientific result.

Professor Wagner says: "It is impossible in field operations to conduct the large number of separate experiments which are necessary, and beyond this there are other great difficulties and obstacles in the way: (1) It is difficult to find a field of such uniform condition of the soil that each portion of the same, by similar preparation, gives approximately equal crops; (2) the measurement and marking out of the patches of ground, the tillage, the manuring, the sowing and reaping of each patch, also the determination of the weight of the crop, is a work which includes many sources of error, and which cannot be carried out with accuracy; (3) further errors ensue through injury to the plants by insects, moles, mice, birds, bad weather, &c.; (4) the extra crops obtained by manuring are, as a rule, too small in proportion to the errors of experiment; (5) the use of a soil containing the smallest possible quantity of the fertilizers, and the establishing in sufficient excess of all other factors of vegetation, particularly moisture of the soil, space between the plants, and light, are demands which cannot be satisfied by field research; (6) the condition that the difference in crops between two experiments is only produced by one special constituent of the tested factor of vegetation, it is not possible to fulfill in field operations."

"Suppose it is necessary to determine, under similar conditions, the comparison of the action of a given manure upon sandy and upon clayey soil. This problem cannot be solved by field experiment, because the two soils are never so near each other that both would be under the same meteorological conditions. This being the case, then the difference of the crops from these two soils would be partly brought about by the difference in weather, and partly by the difference in soil. It would remain unknown in what proportions these two factors have influenced the result. Manurial questions of general importance cannot be solved, in a reliable way, to satisfy the wants of agriculturists by field research." Professor Wagner further observes: "According to my idea, field experiments simply answer questions depending on purely local conditions of soil, cultivation, and climate. Only exact scientific methods and scientific manurial experiments, supported by chemical analyses and complete physical and chemical researches, can solve such questions."

The learned professor, in answer to the query, "How are manurial experiments to be carried out?" describes his methods. He says: "I use zinc cylinders 133 centimeters (52 inches) high and 60.100 centimeters (23,39 inches) in diameter, open at both ends. These are buried up to their edges in the earth and filled with a given soil. Soil so inclosed forms a patch of ground which differs only from a field experiment

in being very small, and allows in every respect an exact prosecution of the research. The soil (which consists of carefully mixed earth) is the same in every parallel series of experiments, also stratification of the soil, depth of the shoots, the quantity and division of the manure, the quality of seed, the depth of the seed, the distance of the plants from each other, and their number, which are in all cases to be equal. The patches are to be separated from the surrounding earth to an absolute depth of 1:3 centimeters (52 inches). The cylinders can be filled with any suitable soil, and the underground may be of any desired material. When the experiments are ended the soil can be taken out, unless the after action of the manures is to be determined by further culture of the same soil, the cylinder refilled with another kind of earth, and a new series of experiments commenced. In case of lengthy droughts (whereby so many field experiments are rendered invalid), the patches must not suffer for want of water, and if necessary they can be watered. The plants must be guarded against birds, mice, lice, worms, &c., and means used to destroy fungoid diseases; in short, the patch should be protected in every respect from injury, and the extra crop in all cases be ascertained with the greatest accuracy."

Professor Wagner inquires also, "Can the crude, finely powdered basic slag be used as a manure?" and shows that a closer study of the properties of that material has considerably changed the views hitherto current. It has been proved that by simply crushing the slag to a fine powder the phosphoric acid contained in it acts more quickly and intensely than the phosphoric acid in either crude guano or bone meal. The phosphate in basic slag contains a larger proportion of lime than any of the other phosphates in the manure market; and it might naturally be supposed that its decomposition in the soil would be attended by greater difficulty than the decomposition of a phosphate containing a smaller proportion of lime, it being well known that with increasing proportions of lime in phosphates of that base the solubility decreases, while the difficulty of decomposition increases. The reason that basic-slag phosphate does not follow this rule is explained by the assumption that the phosphoric acid is in a state of supersaturation with lime, and that the combination is unstable. Hence simply crushing the slag to a fine powder suffices to prepare it for the use of agriculturists. In order to compare the value of basic slag with that of other phosphatic manures, it was necessary that experiments should be carried out in an exact and scientific manner, and that from results so obtained the farmer himself should draw his own conclusions. Professor Wagner fully enumerates in his book the varied conditions under which his experiments have been made, and shows that full cognizance was taken of every factor which could influence them. Experiments made with a great variety of plants, manures, and soils have given results from which the following table has been compiled:

Phosphoric acid:	
In superphosphate	100
In guano	30
Bone meal	10
Coprolites	9
Basic slag I	61
Basic slag II	58
Basic slag III	13

The value of basic slag, apart from its phosphoric acid, depends entirely upon the degree of fineness to which it has been powdered. In order that the fullest effect may be produced, the slag must be ground to an impalpable powder. After a certain degree of fineness the rapidity of action decreases quickly, as shown in the above comparison. Slag No. I is so finely reduced that it passes through a sieve of 9.004-inch mesh, equaling the fineness of flour. Slag No. II, the action of which is somewhat inferior to that of the former powder, passes a sieve of 0.008-inch mesh. Slag No. III passes through a mesh of 0.016 inch, and, although only twice as coarse as slag No. II, possesses barely a fourth part of the activity.

Professor Wagner maintains that two pounds of basic-slag phosphoric acid given to the soil in the spring will produce in the first summer after manuring the same effect as one pound of superphosphate phosphoric acid, when the basic slag consists of not more than 20 per cent. of the coarse meal (III), the remaining 80 per cent. being composed of I and II. The consumer in purchasing should insist on a guarantee of the percentage of phosphoric acid, and of the degree of fineness. It will then be an easy matter to calculate how much basic slag must be used in the place of a given amount of superphosphate.

There are soils which exercise an especial influence on the activity of the basic-slag phosphate, namely, moor and peaty meadow soils. Professor Wagner's experiments were carried out on loamy soil (meadow) containing a medium amount of lime, and on a sandy loam soil containing a very small amount of thissubstance. Both showed that the slag phosphate acted more quickly than the phosphate of bone meal or of Peruvian guano. He considers it unwise to use any other phosphatic manure than

basic slag for moor and peaty soils, which require to be supplied with phosphoric acid, as it offers the cheapest source of this fertilizer. When a meadow is not excessively wet, but at the same time does not suffer from want of water, extraordinarily high crops can be obtained by manuring with about 1,200 pounds of kainite, together with, say, 1,700 pounds of basic slag per 2½ acres. "Basic slag," the learned professor observes, "has an especial importance when it is necessary to provide for the action of phosphoric acid over a period of several years. In laying out pastures and meadows, the slag gives great help when placed deep in the ground." He advocates the use of basic slag in vineyards, orchards, and gardens in general, where deep working of the soil is usual, pointing out that there is here the opportunity of enriching the deeper layers of the soil with cheap and active phosphoric acid. If, besides basic slag, ammonium sulphate be used, the two manures must not be strewn as a mixture, because the lime in the slag would set ammonia free, and thereby cause a loss of nitrogen. Basic slag can be mixed with nitrate of soda and potash salts without fear of loss or deterioration. It must be remembered, however, that such mixtures soon adhere and become hard; therefore they should be prepared shortly before use. An addition of a small amount of powdered peat prevents adhesion. In case of windy weather, it is better to mix the powdered slag with moist earth to prevent scattering, as the free lime it contains attacks the respiratory organs.

It has been supposed that, owing to the presence of iron, the slag might have an injurious effect upon plants. This supposition is, however, negatived by Professor Wagner in the most decisive manner. He says:

"The fear of an injurious effect from the iron in basic slag is altogether without ground, and should never have existed."

"Finally, it is necessary to remark that the use of phosphoric acid alone, whether as basic slag or superphosphate, is only profitable in few cases. It is nearly always best to manure at the same time with a sufficient quantity of potash, nitrogen, or both, in order to bring the phosphoric acid into full action."

Those who wish for full information respecting Professor Wagner's investigations on the value of basic slag as a manure should read carefully his admirable book. Arrangements have been made for its translation into English, and its early publication in this country. Beyond the importance of the new manure to agriculturists generally, there is also the consideration of increased gain to iron-masters, who use ores containing phosphorus in the production of steel by transformation of a worthless residiuum into a marketable commodity. (From Newcastle Chronicle, January 24, 1887.)

NOTES.

Trade at Shanghai.—Consul-General Kennedy writes from Shanghai, under date of January 7, 1887, as follows:

In conversation with some of our leading American merchants at this port they represent trade as looking up, and feel encouraged by the outlook. The competition is so sharp that the margin of profit in all lines is comparatively small.

Exchange from June until September was very much against them, the depreciation in silver having assumed, for three months or more, almost a panic-like aspect, and the uncertainties attendant on its fluctuation so unsettled business as to render all transactions uncertain and no accurate judgment thereon could be predicted. But it began to rise in value about the latter date and has assumed ever since a healthier and steadier tone.

I have requested our merchants to give me the benefit of their views as to the best methods of fostering and developing our trade with China, and hope to derive therefrom some valuable suggestions.

Winter wheat crop of France.—Consul Dufais, of Havre, writes as follows:

The Official Journal of the 21st February gives the following statement of the outlook of the winter wheat crop in France, which I have the honor herewith to transmit:

The condition of fall sowing was as follows: In 18 departments, very good; in 20 departments, good; in 23 departments, fair; in 23 departments, middling; in 3 departments, bad.

Present outlook.—In 15 departments, very good; in 43 departments, good; in 13 departments, fair; in 12 departments, middling.

The area under cultivation compared with the usual average: In 10 departments, superior; in 46 departments, average; in 28 departments, inferior.

In my consular district as follows:

Seine-Inférieure (report December 13), showing under good conditions good harvest in prospect, area about usual.

Calvados (December 16), atmospheric conditions during sowing very favorable; present condition satisfactory; area below average.

Côtes-du-Nord (January 17), sowing belated by rain; outlook above ground good; about average area.

Manche (January 29), conditions of sowing good; prospect good; about average area.

Finistère (December 17), conditions good; prospect good; area 10 per cent. below average.

The debate in the Chamber of Deputies on the question of raising the import duty of wheat from 3 francs, as at present, to 5 francs per 100 kilograms is still going on. A few days ago a deputation of 107 syndicates of agricultural proprietors in 60 departments placed a petition in the hands of the minister of agriculture advocating this increase of duty, which is opposed by manufacturing districts and large cities. The Government, being divided on the question, observes strict neutrality between the opposing factions. It is said the minister of agriculture, Mr. Jules Develle, will speak in favor, in his quality as deputy; it will probably be middle of March before a solution of the question is reached.

The Chamber of Deputies, on March 10, by a vote of 328 against 238, approved the bill imposing a duty of 5 francs per 100 kilograms on wheat imports.

Exports of Hawaiian Islands.

Quantities and values of the principal domestic exports for the twelve months ending December 31, 1885 and 1886, showing increase and decrease.

Articles.	Twelve months ending December 31, 1885.		Twelve months ending December 31, 1886.		Quantities.	
	Quantity.	Value.	Quantity.	Value.	Increase.	Decrease.
Sugar..... pounds..	171,350,314	$8,356,061 04	216,223,615	$9,775,132 12	44,873,301	.....
Rice.....do....	7,367,253	387,296 63	7,338,615	326,628 98	.....	28,638
Hides..... pieces..	19,045	71,532 78	31,207	111,910 72	12,162	.....
Bananas..... bunches..	60,046	58,809 50	45,862	43,824 25	.....	14,184
Wool .....pounds..	474,121	49,573 93	418,784	37,372 08	.....	55,337
Goat-skins..... pieces..	19,782	15,028 32	21,173	12,644 35	1,391	.....
Molasses .....gallons..	57,941	7,050 00	113,137	14,501 76	55,196	.....
Dried bananas..... boxes..	892	4,265 00	.....	.....	.....	892
Betel leaves.....do....	350	1,945 00	295	1,482 50	.....	55
Sheep-skins .....pieces..	8,783	1,735 62	9,255	988 00	472	.....
Coffee .....pounds..	1,675	283 00	5,931	1,067 00	4,256	.....
Fungus..... do....	1,137	113 70	.....	.....	.....	1,137
Calf-skins..... pieces..	26	20 00	105	105 00	79	.....
Taro flour.... ....pounds..	.....	.....	440	38 22	440	.....
Tallow..... do....	.....	.....	21,305	1,011 00	21,305	.....
Awa..... do....	.....	.....	20,372	3,550 24	20,372	.....
Sundries.....	.....	4,954 36	.....	10,118 95	.....	.....
Total value.....	.....	8,958,663 88	.....	10,340,375 17	.....	.....

Petroleum trade with Greece.—Consul Moffett, of Athens, under date of February 10, 1887, writes as follows:

The following statistics are published by the Greek Government (monopoly) of the sales of petroleum for 1885, 1886:

During the year 1885 there were sold 140,787¼ cases for the sum of 2,851,183.35 drachmas ($550,278).

In 1886 were sold 152,788¼ cases for the sum of 3,895,674.75 drachmas ($751,879).

The petroleum monopoly (Greek Government) came into force February 6, 1885.

From February 6, 1885, to December 7, 1885, the case of petroleum was sold at 19.20 drachmas ($3.70).

From December 7, 1885, to October 22, 1886, the price per case was 25.50 drachmas ($4.90).

On the 22d October, 1886, the price was raised to 26 drachmas per case ($5).

The price to-day at the Government monopoly store in Athens is 26.50 drachmas, or $5.10 per case. Each case contains two tins of less measure (I think) than the ordinary 5-gallon tin used in America.

Notwithstanding the high price (57 cents per gallon or over) the quality of the oil is inferior, burns with a dull yellow light, emits much smoke, and leaves a large amount of sediment.

On inquiry of those who have made purchases of the Russian oil recently imported (see dispatch No. 77), I am told that the quality is better than the American oil, and gives good satisfaction.

The American refiners and exporters who at present supply the Greek Government monopoly with petroleum will henceforth have to contend against lower freights and better oil, and unless they can successfully compete with the German agents of the Russian oil on these two points there is reason to fear a steady and rapid decline in the demand for American petroleum.

Cattle imports into Greece.—Consular Agent McDowall writes from Piræus, under date of February 9, 1887, as follows:

During the year ended 1886 there were imported into Greece 20,000 head of cattle for slaughter. The greater number of these came from Odessa and other Russian Black Sea ports. The money value of these cattle is not given, but from inquiry I gather that, on an average they cost here, including freight and custom duty (the latter being 30 drachmas per head), about $30 per head.

Two hundred thousand sheep and lambs were imported for food during 1886, principally from Russian Black Sea and Turkish ports. Value per head, including freight and duty, on an average, $5 to $6.

Tariff on macaroni in Venezuela.—Consul Plumacher writes from Maracibo, under date of January 29, 1887, as follows:

I inclose copy and translation of an official notice just received by telegraph from Carácas, increasing the import duties upon macaroni, vermicelli, &c., and also upon the "semola" or flour used in their manufacture. Macaroni and vermicelli are now weighted with a duty of 25 cents per kilogram, and the semola 5 cents, instead of 15 cents the former and 2 cents the latter, as formerly.

[Translation.]

CARÁCAS, *January* 25, 1887.

To the Collectors of Customs:

The President of the Republic having resolved to place semola (flour for making macaroni) in the third tariff class (.05 per kilogram duty), and pastes, such as macaroni, vermicelli, &c., in the fifth class (.25 per kilogram duty), a notice of twelve days is given for North America and eighteen days for Europe before carrying this into execution, counting from the publication of the decree in the Official Gazette, and I have to inform you that it was so published on the 15th of this month.

P. P. AZPURUA H.,
Minister of Finance.

Tariff on toys in Venezuela.—Consul Bird writes from La Guayra, under date of February 21, 1887, as follows:

Children's toys, of whatever material, together with needles of steel, wood, bone, caoutchouc, or other similar substance, shall be appraised under the third class of the tariff, or at the rate of 25 centimes of a bolivar per kilogram. Wooden toys, the importation of which has been hitherto prohibited, are to be now admitted. The reduction of duty upon toys amounts to 80 per cent., and that upon needles to 90 per cent. of former tariff rates.

Peruvian mining exposition.—Consul Brent writes, January 22, 1887:

The opening of the mining exposition at Lima has, by supreme decree, been postponed until the 29th of July, 1888, as it was found to be impossible to make the desired collections of specimens in time for the proposed opening on October 1, 1887.

Exports from Bradford to the United States.—Consul Grinnell writes from Bradford, under date of February 22, 1887:

Table showing the value of declared exports from the consular district of Bradford to the United States during the past twenty years.

[Exchange: £1 = $4.8665.]

Year.	English money.	United States money.	Year.	English money.	United States money.
	£ s. d.			£ s. d.	
1867	2,101,295 15 8	$10,225,955 93	1878	1,009,793 6 0	$5,206,149 10
1868	2,529,016 15 6	12,307,460 14	1879	1,456,376 18 10	7,087,458 38
1869	2,670,517 19 10	12,906,075 80	1880	1,926,227 15 2	9,373,987 38
1870	3,016,689 15 2	14,680,720 73	1881	1,604,505 17 9	7,808,327 90
1871	3,239,639 10 11	15,765,705 85	1882	1,677,013 19 4	8,161,188 46
1872	3,760,889 14 3	18,302,369 79	1883	2,212,369 15 5	10,766,497 27
1873	3,001,465 14 5	14,898,622 93	1884	2,675,140 10 3	13,018,571 28
1874	2,828,099 5 6	13,762,945 12	1885	2,783,837 6 8	13,547,544 37
1875	2,325,619 6 1	11,317,626 35	1886	3,673,665 8 2	17,877,892 65
1876	1,375,824 13 11	6,695,450 88			
1877	1,468,054 16 5	7,144,288 78		47,456,044 5 3	230,944,839 09

Crops of Denmark.—Consul Ryder transmits the following table:

Estimated yield of crops in the several counties of the Kingdom of Denmark.

Counties.	Wheat.	Rye.	Barley.	Oats.	Vetches.	Peas.	Beans.	Roots.	Potatoes.	Field hay.	Meadow hay.
The islands.											
Copenhagen	1.1	1.0	1.1	1.0	1.0	0.8	.....	0.6	1.3	0.7	0.8
Frederiksborg	1.2	0.8	1.1	1.1	0.9	0.7	0.8	0.7	1.0	0.6	0.6
Holbek	1.0	1.0	1.0	0.9	0.9	0.9	1.0	0.8	1.1	0.5	0.5
Sorõe	1.0	0.7	1.3	1.0	1.0	1.0	1.0	0.8	1.2	0.5	0.9
Præstõe	0.8	0.9	1.0	1.0	0.7	0.9	0.8	0.7	1.2	0.6	0.7
Bornholm	0.6	0.6	0.8	0.6	0.9	0.6	0.5	0.6	0.9	0.5	0.9
Maribo	1.0	1.2	1.1	1.0	1.0	1.0	0.8	0.6	1.1	0.7	0.7
Odense	1.1	1.0	1.1	0.9	1.1	1.2	0.8	0.8	1.1	0.8	0.8
Svendborg	0.9	0.8	1.0	1.0	1.1	1.1	1.5	0.6	1.3	0.6	0.7
Aarhuus	1.0	0.8	1.2	1.0	1.2	1.2	1.5	0.9	1.1	0.8	0.6
Randers	0.7	0.7	1.3	1.1	1.1	.....	1.0	1.0	1.1	0.9	0.8
Jutland.											
Aalborg	1.0	0.5	1.0	1.1	1.2	1.0	.....	1.0	1.0	0.8	0.7
Hjöring	1.1	0.5	1.2	1.9	1.1	1.5	.....	1.0	1.1	0.8	0.8
Thisted	1.0	0.7	1.3	1.2	1.1	1.1	.....	0.9	1.1	0.6	0.7
Viborg	.....	0.7	1.1	1.1	1.1	1.3	.....	0.9	1.2	0.8	0.6
Ringkjobing	0.8	0.7	1.2	1.0	1.0	0.5	.....	0.9	1.1	0.7	0.8
Veile	1.1	0.6	1.1	1.3	1.3	1.1	1.2	1.1	1.1	0.8	1.0
Ribe	1.0	0.9	1.3	1.4	1.2	1.0	.....	0.9	1.3	1.1	1.0

INDEX.

[*Consular Reports Nos.* 73–75, *forming Vol.* XXI.]

Acapulco, Mexico, exports to United States, 92.
Adams, Lyell T., forestry in Switzerland, 620.
Adana, agricultural implements in, 529.
Africa, South, Transvaal gold fields, 473.
Agricultural colonies of Uruguay, 37.
implements in Adana, 529.
Agriculture of Uruguay, 11, 38.
Alden, W. L., Italian duties on American exports, 176.
manufacture of white lead in Italy, 580.
Amapala, exports to the United States, 99.
American trade and tariff of New South Wales, 632.
in Japan, 630.
Anderson, Wendell A., Canadian duties on American exports, 238.
Appenzell, forest areas, 458.
Apple crop of France, 1886, 528.
Apprentices in German factories, 372.
Argentine Republic, 514.
duties on American exports, 285.
Art works, mediæval, in Birmingham, 561.
Associations of iron manufacturers in Germany, 73.
Australia, Canadian trade in, 635.
Austria-Hungary, American sleighs, 507.
duties on American exports, 119.
foreign trade, 1886, 65.
petroleum question, 65, 67.
production of lead, 569.
Russian petroleum, 416.
Bacon, John E., Republic of Uruguay, 1.
Baden-Powell, George, Victoria and New South Wales, 652.
Baker, Edward L., Argentine duties on American exports, 285.
Baku, oil fields, 400, 549.
pipe line, 114, 414.
railroad, 414.
signs of exhaustion, 552.
Banking in Uruguay, 42.
Barbadoes, duties on American exports, 272.
Basic slag as a manure, 544, 678.
Batoum, pipe line, 114.
Bayard, T. F., letter of transmittal, 117.
Beef, American dressed, in Glasgow, 476.
Beet and turnip fodder for milch cows, 520.
Beirut, trade with the United States, 110.
Belgium, duties on American exports, 129.
production of lead, 569.
white-lead manufacture, 492.
Belize, exports to the United States, 97.
Bell, Isaac, jr., prison system of the Netherlands, 616.
Bernhard, George, duties of Honduras on American exports, 258.
Bibi-Eibat petroleum wells, 553.
Birch, John M., camphor in Japan, 466.
Bird, W. S., duties of Venezuela on American exports, 342.
duty on toys in Venezuela, 684.
Birmingham, mediæval art works, 561.
nail and chain industry, 527.
Bissinger, Erhard, Egyptian petroleum fields, 423, 555.
trade of Beirut with the United States, 110.
Black-rot in France, 492.
Black, William J., glass industry of Germany, 484.
Bluefields, exports to the United States, 99.
Bohemia, textile industries, 504.
Bonham, B. F., duties of British India on American exports, 356.
Bradford, exports to the United States, 1867–'86, 684.
Brazil, duties on American exports, 295.
Brent, H. M., Peruvian duties on American exports, 325,
mining exposition, 684.
progress, 57.
tariff, 523.
and budget, 523.
Bridgers, P. L., duties of Uruguay on American exports, 338.
Republic of Uruguay, 35.
Brown, William A., fruit interests of Nicaragua, 660.
Bryan, E. H., exports of Lyons to the United States, 115.
Budget of Peru, 112.
Butter, American and Scotch, 597.
Camphor, monopoly in China, 469.
production in Formosa, 459, 467.
Japan, 461, 464, 466.
Canada, cheeses, 598.
duties on American exports, 238.
in Australia, 635.
tariff changes, 113.
Carroll, Philip, sumac culture in Sicily, 527.

Catlin, George L., Swiss forestry, 431.
Cattle, American, in Glasgow, 476.
imports into Greece, 683.
Cereal crops of Denmark, 685.
Chain and nail industry of Birmingham, 527.
Chambers, James C., Russian petroleum trade, 400, 549.
Champerico, exports to the United States, 98.
Cheese, American and Scotch, 597.
Canadian, 598.
Chiapas, exports to the United States, 92.
Child, Jacob O., Siamese duties on American exports, 355.
Children in German factories, 372.
Chili, duties on American exports, 318.
China, camphor monopoly, 469.
commerce, and value of silver, 508.
duties on American exports, 350.
iron and steel implements, 509.
kerosene in, 510.
taxation of, 558.
prices of silk and tea, 508.
Clyde, ship-building interests, 584.
Coatzacoalcos, exports to the United States, 92.
Coinage of Mexico, 529.
Conroy, Edward, duties of Porto Rico on American exports, 281.
Cooper, S. W., duties of Sweden on American exports, 212.
Copper mines of Norway, 87.
Corea, duties on American exports, 354,
German steamships to, 112.
Corinto, exports to the United States, 100.
Counterfeiting American marks in Russia, 413.
Cowles, J. P., camphor in Formosa, 467.
Crimea, petroleum interests, 422.
Crimping, suppression of, 592.
Crouch, Henry C., Italian silk crop, 1886, 526.
silks in France, 526.
silk speculation in Italy, 83.
Crowe, C. L., currant crop of Greece, 1886, 80.
Crowell, W. S., a camphor monopoly, 469.
Cuba, sugar interests, 659.
Culinary exhibition, Leipsic, 606.
Currant crop of Greece, 1886, 80.
Dawson, W., agricultural implements in Adana, 529.
Denby, Charles, decline in the value of silver and the commerce of China, 508.
importance of Formosa, 458.
Denmark, crop prospects, 685.
duties on American exports, 133.
fodder purchases, 625.
Dividends of gas companies, England, 540.
Drink shops in France, 492.
Dufais, F. F., French apple crop, 1886, 528.
winter wheat crop of France, 682.
Duke, J. Maurice, duties of Salvador on American exports, 264.
Dunn, D. M., Chilian duties on American exports, 318.
Dwellings in Leipsic, 480.
Eckstein, D., Holsteins in the United States, 533.
sugar interests of Java, 517.
white-lead manufacture in Holland, 61.
Ecuador, duties on American exports, 323.
Education in Uruguay, 15, 42.
Egypt, petroleum fields, 423, 555.
Emigration from the United Kingdom, 1886, 529.
England, production of lead, 567.
white-lead industry, 583.
Exhibition, culinary, Leipsic, 606.
Exposition, mining, Peru, 684.
Factory operatives of Germany, 371.
Farm rents in Scotland, 602.
Finances of South American states, 513.
Uruguay, 20, 21, 43.
Fletcher, James, manufacture of white lead in Genoa, 582.
Fodder, beet and turnip, for milch cows, 520.
purchases, Denmark, 625.
Folsom, Benjamin, manufacture of white lead in England, 583.
Forestry in Switzerland, 426, 431, 620.
Forest trees of Switzerland, 442.
Forests of Uruguay, 3.
Formosa, camphor, 459, 467.
coal, 459.
importance of, in American trade with China, 458.
trade of, 460.
Förster, Charles, power and hand looms, 611.
France, American vines, 492.
apple crop, 1886, 528.
black-rot, 492.
drink shops, 492.
duties on American exports, 136.
imports of wines, 490.
Italian silks, 526.
phylloxera and mildew, 489.
production of lead, 569.
white-lead manufacture, 573.
wine harvest, 1886, 489.
winter wheat crop, 682.
Frontera de Tabasco, exports to the United States, 92.
Fruits of Nicaragua, 660.
Uruguay, 3.
Gade, Gerhard, mining in Norway, 85.
Gas, cost of production in England, 535.
Genoa, white-lead manufacture, 582.
Germany, apprentices in factories, 372.
children in factories, 372.
cost of living, 396.
dwellings, 392.
duties on American exports, 159.
factory operatives, 371.
glass industry, 484.
hours of labor, 380.
industrial stock companies, 609.
iron and steel industry, 70.
lead production, 569.
oyster breeding, 487.
prices in, 615.
steamships to Corea, 112.
strikes, 378.
wages, 74, 377, 379.
white-lead manufacture, 499.
women in factories, 375.
Gifford, George, knit-goods industry of Switzerland, 634.

Gilbert, Henry W., petroleum in Austria, 67.
Glasgow, American cattle and dressed beef, 476.
Glass industry of Germany, 484.
stained, of Birmingham, 564.
Goodwin, George B., oyster breeding in Germany, 487.
Greathouse, C. R., camphor in Japan, 461.
Greece, cattle imports, 683.
currant crop, 1886, 80.
duties on American exports, 166.
petroleum trade, 683.
Griffin, G. W., duties of New South Wales on American exports, 358.
tariff of New South Wales, 631.
Grinnell, William F., exports from Bradford to the United States, 684.
Grisons, forest areas, 458.
Guatemala, exports to the United States, 98.
Guaymas, exports to the United States, 92.
Guerrero, exports to the United States, 93.
Hanna, Bayless W., relative importance of South American states, 511.
Hastings, Frank P., opium in Hawaii, 472.
Hawaiian Islands, duties on American exports, 348.
exports, 683.
opium in, 472.
Hawes, John B., American sleighs and hand-sleds for Austria, 507.
textile industry of Bohemia, 504.
Hayti, duties on American exports, 275.
Heap, G. H., duties of Turkey on American exports, 226.
Heenan, Thomas E., pipe line from Baku to Batoum, 114.
Holsteins in the United States, 533.
Honduras, duties on American exports, 258.
Hours of labor in German factories, 380.
Hughes, Joseph B., iron and steel implements in China, 509.
mediæval art works in Birmingham, 561.
nail and chain industry of Birmingham, 527.
Ilsky, petroleum interests, 420.
Immigration into Uruguay, 13, 37.
India, duties on American exports, 356.
Ingraham, D. H., salt production of Spain, 114.
Spanish crops, 114.
Internal improvements, South American states, 512.
Iron and steel industry of Germany, 70.
mines of Norway, 87.
Italy, duties on American exports, 176.
silk crop, and manufactures in France, 526.
speculation, 83.
white-lead manufacture, 580.
Japan, American trade in, 630.
camphor in, 461, 464, 466.
land tenure, 626.
Java, sugar interests, 517.
Jernigan, T. R., camphor in Japan, 484.
land tenure in Japan, 626.
Jussen, Edmund, Austrian duties on American exports, 119.
Jussen, Edmund, foreign trade of Austria and the petroleum question, 65.
Kennedy, John D., American exports to Shanghai, 113.
Chinese duties on American exports, 350.
trade of Shanghai, 662.
Kerosene in China, 510, 558.
Kilmarnock cheese fair, 597.
Knight, W. J., tariff of the South African Republic, 110.
Transvaal gold fields, 473.
Knit-goods industry of Switzerland, 624.
Labor in Germany, 371.
laws of Mexico, 49.
Lace industry of Nottingham, 69.
La Libertad, exports to the United States, 100.
Land tenure in Japan, 626.
La Paz, exports to the United States, 93.
La Union, exports to the United States, 101.
Lead production in Austria, 569.
Belgium, 569.
England, 567.
France, 569.
Germany, 569.
Portugal, 568.
Spain, 568.
separation from ore, 571.
white. (*See* White lead.)
Leather exchange of Leipsic, 604.
Leipsic, culinary exhibition, 606.
leather exchange, 604.
overcrowding of poor, 480.
Lekin tax on petroleum, 558.
Lewis, E. P. C., Portuguese duties on American exports, 191.
Liebig meat factory, Uruguay, 10.
Lille, manufacture of white lead, 573.
Live stock of Uruguay, 7, 38.
Livingston, exports to the United States, 98.
Locomotives, American, in New South Wales, 633.
Looms, power and hand, 611.
Lower California, industrial situation, 515.
Lumber trade of Switzerland, 429, 449.
Lyons, exports to the United States, 115.
Macaroni, duty on, in Venezuela, 684.
Manure, artificial, 544.
basic slag as, 678.
Marston, H. C., Spanish duties on American exports, 206.
Mason, Frank H., American vines in France, 492.
white-lead manufacture in France, 57.
Mason, Joseph T., manufacture of white lead in Germany, 503.
Matamoros, exports to the United States, 93.
Mazatlan, exports to the United States, 93.
McCall, Charles R., Brazilian duties on American exports, 295.
McDowall, Arthur C., cattle imports into Greece, 683.
McGarr, Owen, Ecuadorian duties on American exports, 323.
Meat, American, in Germany, 607.
frozen, trade, 21.

Meat imports into Glasgow, 478.
Liebig's meat extract, 10.
Merida, exports to the United States, 94.
Mexico, coinage of, 529.
depreciation of silver, 667.
duties on American exports, 246.
labor laws, 49.
mercantile crisis, 672.
sugar growers of Tabasco, 518.
Mildew, vine, in France, 489.
Millar, Samuel Rolfe, culinary exhibition at Leipsic, 606.
Leipsic leather exchange, 604.
overcrowding of Leipsic poor, 480.
wages of laborers in Germany and Saxony, 74.
Mining exposition in Peru, 684.
in Norway, 85.
Moffett, W. H., Grecian duties on American exports, 166.
petroleum trade of Greece, 683.
Monopolies in Lower California, 515.
Monterey, exports to the United States, 94.
Montevideo, 34.
navigation, 1882–'84, 45.
Morgan, J. M., Victorian duties on American exports, 362.
Mutton, frozen, 479.
Nail and chain industry of Birmingham, 527.
Natal tariff, 657.
Netherlands, duties on American exports, 173.
prison system, 616.
white-lead manufacture, 497.
New South Wales and Victoria, 652.
duties on American exports, 358.
tariff, 631.
Newton, Robert S., Royal Trans-African Railroad, 114.
trade of Saint Paul de Loando, 111.
New Zealand, duties on American exports, 307.
wages and prices, 104.
wool and timber exports, 532.
Nicaragua, duties on American exports, 260.
fruit interests, 660.
Nickel mines of Norway, 87.
Night labor in German factories, 386.
Norway, mining, 85.
smelting industry, 89.
Nottingham lace industry, 69.
Novorossisk, petroleum interests, 420.
Nuevo Laredo, exports to the United States, 94.
Opium in Hawaii, 472.
Overcrowding of the Leipsic poor, 480.
Oyster breeding in Germany, 487.
Ozocerite, 555.
Packing goods for export, 102.
Parker, W. H., Corean duties on American exports, 354.
Paso del Norte, exports to the United States, 94.
Pay, advance, of seamen, 594.
Peru, duties on American exports, 325.
tobacco and cigars, 112.
mining exposition, 684.
Peru, progress in, 55.
tariff, 523.
Petroleum, counterfeiting American marks, 413.
deposits, Crimea, 422.
Egypt, 423, 555.
Ilaky, 420.
Novorossisk, 420.
Venezuela, 556.
in Austria, 65, 67, 416.
prices, Baku, 406.
Russian interests, 400, 549.
taxation in China, 558.
test, Russia, 409.
trade of Greece, 683.
Phylloxera in France, 489.
Piedras Negras, exports to the United States, 95.
Pipe line, Baku, 14, 414.
Plumacher, E. H., petroleum developments in Venezuela, 556.
Venezuelan duty on macaroni, 684.
Poor, overcrowding of Leipsic, 480.
Population of South American states, 512.
Uruguay, 5, 38.
Porch, J. W., coinage of Mexico, 529.
Port Limon, exports to the United States, 97.
Porto Rico, duties on American exports, 281.
Portugal, duties on American exports, 191.
production of lead, 568.
Potter, J. S., modern methods of restoring to productiveness, worn-out soils, 540.
President's letter, 117.
Price of gas, causes of decline, 539.
Prices in New Zealand, 104.
of food in Germany, 615.
iron in Germany, 1878–'85, 71.
petroleum, Baku, 406.
silk in China, 508.
tea in China, 1876–'88, 508.
Prison system of the Netherlands, 616
Profits of German industrial stock companies, 609.
Prussia, restoration of "worn-out soils," 541.
Puerto Cortez, exports to the United States, 99.
Punta, Arenas, exports to the United States, 98.
Putnam, J. H., Hawaiian duties on American exports, 348.
Railroad, Baku, 414,
Royal Trans-African, 114.
of Uruguay, 41.
Raine F., German duties on American exports, 159.
manufacture of white lead in Germany, 499.
Raisin wine in France, 490.
Reed, L. G., tariff of Barbadoes, 272.
Rents, farm, in Scotland, 602.
house, in Leipsic, 482.
Rhine, vintage of the, 613.
Robertson, G. D., manufacture of white lead in Belgium, 492.
Roosevelt, George W., wine harvest of France, 1886, 489.
Ruatan and Truxillo, exports to the United States, 99.
Russia, duties on American exports, 198.
petroleum test, 409.

Russia petroleum trade, 400, 418, 549.
Ryder, H. B., crops of Denmark, 685.
fodder for milch cows, 520.
purchases in Denmark, 625.
Saladeros of Uruguay, 9.
Salt production in Spain, 114.
Saltillo, Mexico, interests of, 48.
exports to the United States, 95.
Salvador, duties on American exports, 264.
San Benito, exports to the United States, 96.
José, Mexico, exports to the United States, 96.
José, Costa Rica, exports to the United States, 98.
Juan del Norte, exports to the United States, 100.
Salvador, exports to the United States, 100.
Saxony, day wages, 76.
industrial wages, 79.
Sawyer Moses H., commerce of the West Indies, 115.
Schoenhof, J., price of gas and its cost of production in England, 535.
Schools, forestry, in Switzerland, 429, 454.
Scotland, farm rents, 602.
ship-building, 584.
Seamen, wages in United Kingdom, 589.
Seymour, Charles, kerosene in China, 510.
taxation in China, 558.
Shanghai, American exports to, 113.
trade at, 682.
Sheep in Uruguay, 8.
Ship-building in Scotland, 584.
Siam, duties on American exports, 355.
Sicily, sumac culture, 527.
Siler, James W., Natal tariff, 657.
Silk crop of Italy, 1886, 526.
prices in China, 508.
speculation in Italy, 83.
Silver, decline in value, and commerce of China, 508.
depreciation of, in Mexico, 667.
Slag, basic, as a fertilizer, 544, 678.
Sleighs, American, for Austria, 507.
Smith, Jasper, basic slag as a manure, 678.
commerce of the Tyne, 112.
Smith, John Henry, factory operatives in Germany, 371.
prices in Germany, 615.
vintage of the Rhine, 613.
Sonsonate, exports to the United States, 100.
South African Republic, tariff, 110.
American states, relative statistics, 511
Spain, crops, 114.
duties on American exports, 206.
production of lead, 568.
salt, 114.
Spiegeleisen, 72.
Staub, Peter, Swiss forestry, 457.
Stewart, John N., Belgian duties on American exports, 129.
St. Galle, forest areas, 458.
Stockton, Richard, duties of Holland on American exports, 173.
St. Paul de Loando, trade of, 111.
Strickland, Peter, packing goods for export, 102.
Strikes in Germany, 378.
Sugar-growers of Tabasco, 518.
interests of Cuba, 659.
Java, 517.
Sumac culture in Sicily, 527.
Sutton, Warner P., labor laws of Mexico, 49.
Mexican duties on American exports, 246.
Sweden, duties on American exports, 212.
Switzerland, duties on American exports, 620.
forestry in, 426, 431, 620.
knit goods industry, 624.
lumber trade, 429, 449.
Tabasco, sugar-growers of, 518.
Tampico, exports to the United States, 96.
Tariff,
[*See* under each country for duties levied on American exports. The arrangement of commodities will be found on page 369.]
of Natal, 657.
New South Wales, 631.
Peru, 523.
South African Republic, 110.
Tea, prices in China, 508.
Tehuantepec, exports to the United States, 96.
Telegraphs in Uruguay, 42.
Test, petroleum, in Russia, 409.
Textile industries of Bohemia, 504.
Thomas slag, 544, 678.
Thompson, J. E. W., Haytian duties on American exports, 275.
Thurgovie, forest areas, 458.
Timber exports of New Zealand, 532.
Tobacco, duties on, in Peru, 112.
Toys, duty on, in Venezuela, 684.
Trade of South American states, 513.
Transvaal gold fields, 473.
Tunis, prohibiting American vines in, 90.
Turkey, duties on American exports, 226.
Turnip and beet fodder for milch cows, 520.
Tyne, commerce of, 112.
Underwood, Francis H., American and Scotch butter and cheese, 567.
American cattle and dressed beef in Glasgow, 476.
British shipping and the protection of seamen, 585.
white-lead manufacture in Scotland, 65.
United Kingdom, duties on American exports, 236.
emigration from, 1886, 529.
wages of seamen, 589.
United States of Colombia, tariff, 328.
Uruguay, 1.
agricultural colonies, 37.
agriculture, 11, 38.
banking, 42.
botany, 4.
climate, 3.
commerce, foreign, 16, 18, 46, 48.
constitution and government, 14.
crops, 38.

Uruguay, duties on American exports, 338.
earnings of population, 39.
education, 15, 42.
finances, 20, 21, 43.
forests, 3.
fruits, 4.
future, 30.
history, 35.
immigration, 13, 37.
land, value of, 6, 11.
Liebig meat factory, 10.
meat, frozen, industry, 21.
mineral deposits, 4.
navigation, 17.
physical geography, 1, 35.
population, 5, 36.
foreign, 36, 40.
railroads, 41.
saladeros, 9.
stock, live, 7, 38.
sheep, 8.
tariff, 30, 333.
telegraphs, 42.
trade with the United States, 25.
vital statistics, 36.
wealth, 9, 37, 39.
wool, 28.
Utilla, exports to the United States, 99.
Vaud, forestry in Canton, 620.
Venezuela, duties on American exports, 342.
duty on macaroni, 684.
tombstones, etc., 114.
toys, 684.
petroleum development, 556.
Vera Cruz, exports to the United States, 96.
Victoria and New South Wales, 652.
duties on American exports, 362.
Vifquain, C., tariff of Colombia, 328.
Vines, American, in France, 492.
Tunis, 90.
Vintage on the Rhine, 613.
Viosca, James, industrial situation of Lower California, 515.
Visser, John, manufacture of white lead in the Netherlands, 497.
Wages, day, in Saxony, 76.
industrial, in Saxony, 79.
in Bohemia, textiles, 504.
Wages in Germany, 74.
factories, 377, 379.
New Zealand, 104.
of gas stokers in England, 539.
seamen, United Kingdom, 589.
Walker, George, French duties on American exports, 136.
Walker, Lucien J., farm rents in Scotland, 602.
Walker, Thomas M., English duties on American exports, 236.
Wamer, William D., iron and steel industry of Germany, 70.
white-lead manufacture in Cologne, 59.
West Indies, commerce of, 115.
Wheat crop, winter, of France, 682.
White-lead manufacture in Belgium, 492.
England, 583.
France, 57, 572.
Germany, 59, 499.
Italy, 580.
Netherland, 61, 497.
Scotland, 65.
Williams, Charles P., lead and white lead in France and Europe, 567.
Williams, G. Steadman, lace industry of Nottingham, 69.
Williams, Ramon O., sugar interests of Cuba, 659.
Wills, Charles H., duties of Nicaragua on American exports, 260.
Winchester, Boyd, Swiss duties on American exports, 219.
forestry, 426.
Wine harvest of France, 1886, 489.
Rhine, 613.
Winslow, Charles, depreciation of Mexican silver, 667.
mercantile crisis in Mexico, 672.
Woessner, John, interest of Saltillo, 46.
Women in German factories, 375.
Wool exports of New Zealand, 532.
interests of Uruguay, 28.
Worn-out soil, restoring to productiveness, 541.
Young, P. M. B., Russian duties on American exports, 198.
Zurich, forest system, 432.

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